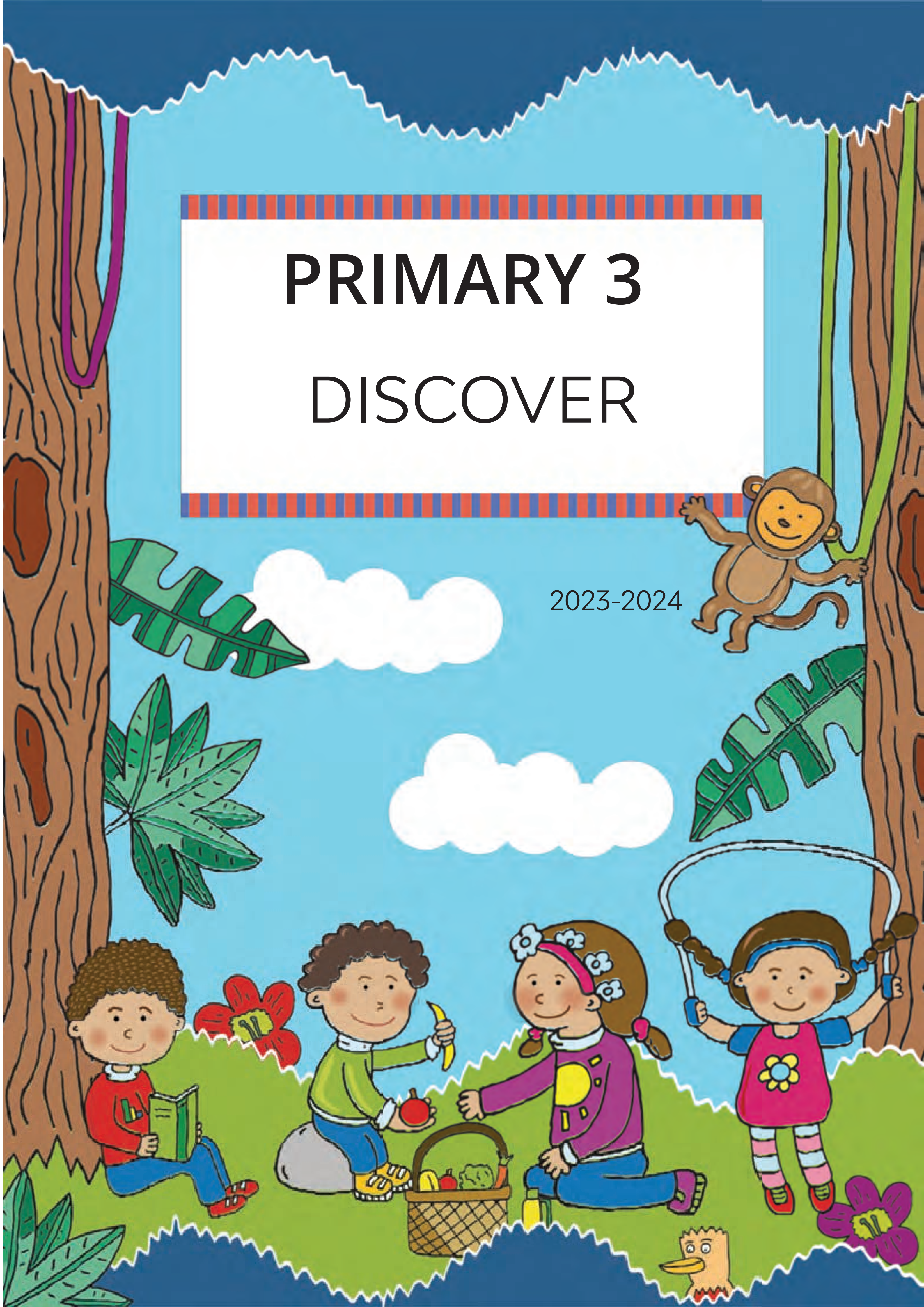
PRIMARY 3

DISCOVER

2023-2024



FOREWORD

The MOETE launched Egypt's reform vision for the development of education, and the process of developing curricula comes at the heart of this vision. The implementation of this vision was heralded in 2018, starting with the kindergarten stage in its first and second grades, with the aim of continuing until the end of the secondary stage.

This vision endeavored to make major transformations in the teaching and learning processes, where there is a transition from acquiring knowledge to producing it, and from learning skills to employing them both in specific learning situations and in the general life of the learner outside the classroom. Our curricula also integrate values that contribute to the establishment of our society—values which pose as a protective fort for our homeland. Egypt's reform vision for curriculum development also aims to take into account the specifications of pre-university education graduates, as well as the challenges Egypt faces locally, regionally, and globally. The developed curricula are intended to foster a citizen who is capable of engaging in civilized conversations and positive dialogues with the other, in addition to acquiring digital citizenship skills.

In this regard, the MOETE extends its gratitude and appreciation to the Central Administration for Curriculum Development. It also extends its thanks and gratitude to Discovery Education for their active participation in the preparation of this book. Gratefulness also goes to all the Ministry's experts who contributed to the enrichment of this work.

This transformation of Egypt's education system would not have been possible without the significant support of Egypt's current president, **His Excellency President Abdel Fattah el-Sisi**. Overhauling the education system is part of the President's vision of "rebuilding the Egyptian citizen" and it is closely coordinated with the Ministries of Higher Education and Scientific Research, Culture, and Youth and Sports. The new education system is only a part in a bigger national effort to propel Egypt to the ranks of developed countries, and to ensure a great future for all of its citizens.

Reviewed by

The General Administration for Planning and Formulating Curriculum

Supervised by

Dr Akram Hassan

Head of the Central Administration for Curriculum Development

WORDS FROM THE MINISTER OF EDUCATION & TECHNICAL EDUCATION

Dear students and fellow teachers,

It gives me great pleasure to celebrate this crucial stage of comprehensive and sustainable development, an epic in which all Egyptian people are taking part. This pivotal stage necessitates paving a foundation for a strong educational system which yields a generation that is not only capable of facing the major challenges the world is witnessing today, but one that also has complete possession of the skills of the future. For this reason, the Egyptian state is keen on empowering its citizens by establishing a top-notch educational system that invests in its children the expertise required to get them to compete at both a regional and global level, at a time when the world is witnessing successive industrial revolutions.

This dictates that our educational system has at its core an emphasis on skills development, deep understanding, and knowledge production. This can only be done through modern curricula that keep up with the changes taking place globally - curricula which prioritize the development of skills and values, and the integration of knowledge. They are also curricula that focus on the provision of multiple learning sources, and integration of technology to enrich the educational process and to improve its outcomes, while addressing the most important contemporary issues.

To achieve this, we must all join hands to continue to revolutionize our education, and to support it with all that is required to transform it into a globally pioneering educational system.

My warmest regards to you, dear students, and my deepest gratitude to my fellow teachers.

Professor Reda Hegazy

Minister of Education and Technical Education

NAME: ______________________________

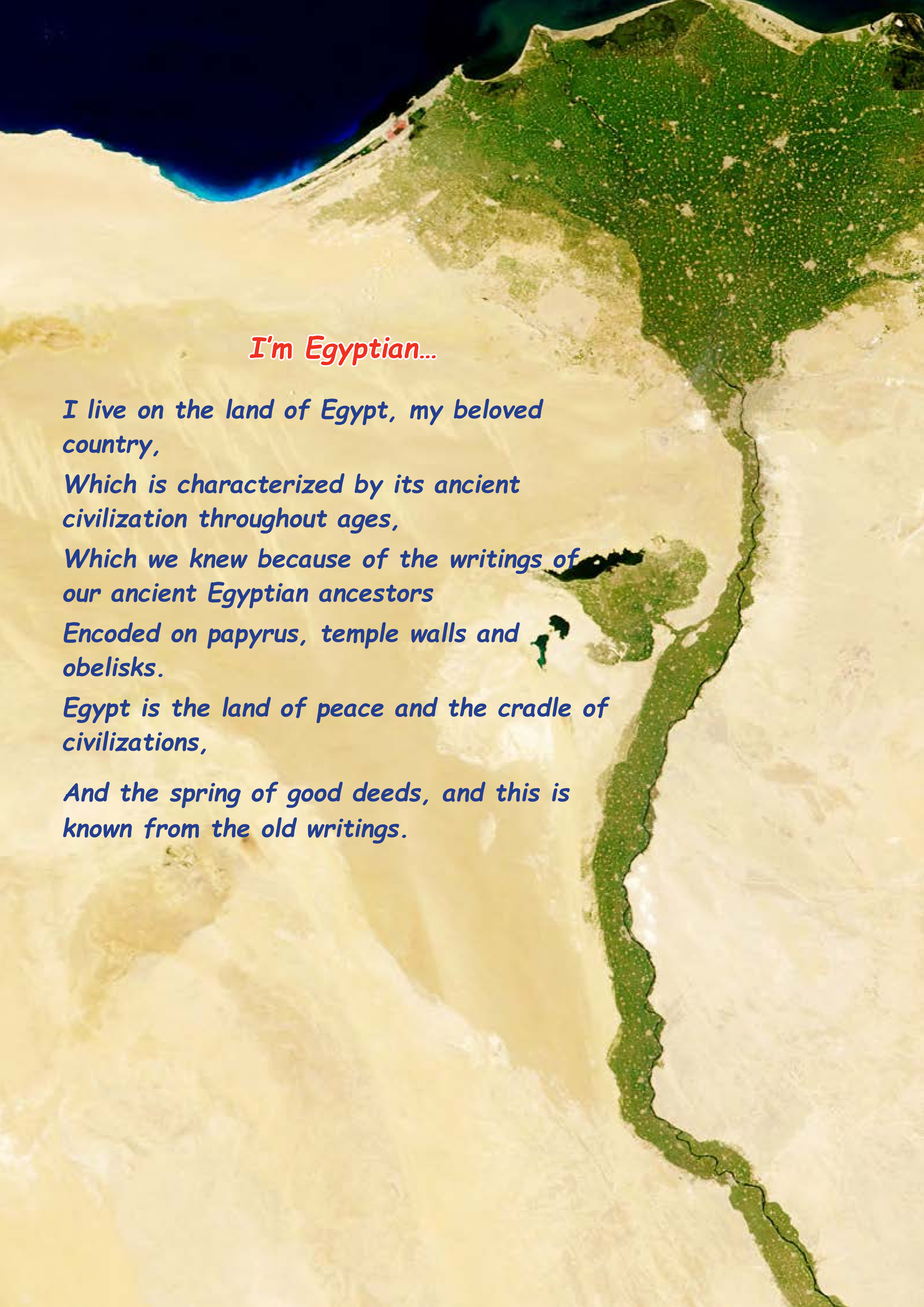
Contents

The first term

The second term

MAKING A STRONGER ME





I'm Egyptian…

I live on the land of Egypt, my beloved country,

Which is characterized by its ancient civilization throughout ages,

Which we knew because of the writings of our ancient Egyptian ancestors

Encoded on papyrus, temple walls and obelisks.

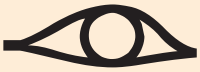
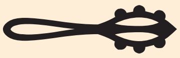
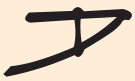
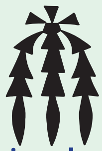
Egypt is the land of peace and the cradle of civilizations,

And the spring of good deeds, and this is known from the old writings.


Egypt is the Land of
Peace and Safety

Hieroglyphic writing

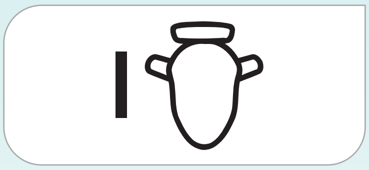
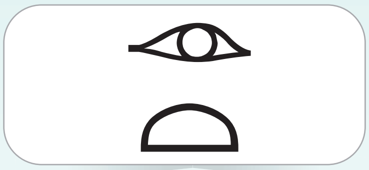
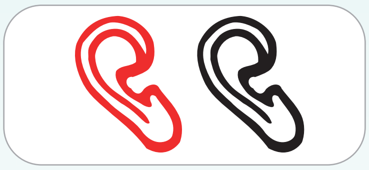
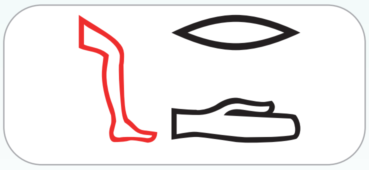
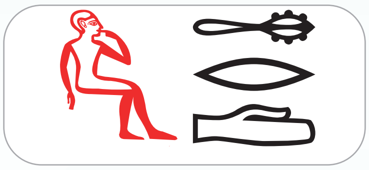
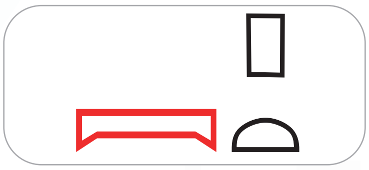
Some hieroglyphic signs:

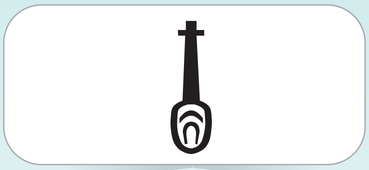
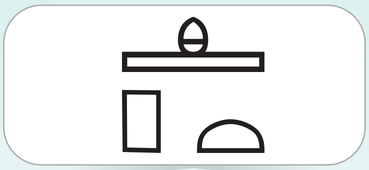
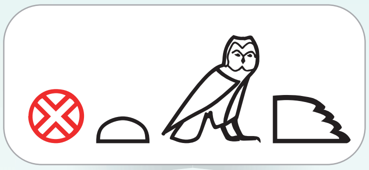
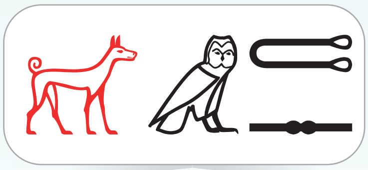
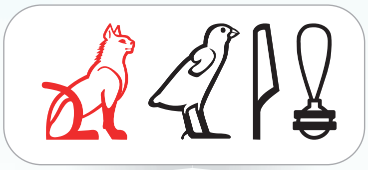
Hieroglyphic signs	Pronunciation	Hieroglyphic signs	Pronunciation
 heart	ib	 heart and windpipe	nfr
 eye	ir	 loaf on a mat	htp
 ear	msjr	 crocodile's skin	km
 animal's belly	gh = غ	 village with cross roads	niwt
 axe	mr	 animal skin	ms

Notice:

A vertical stroke indicates that the hieroglyphic sign represents itself, and is also sometimes used after the sign

The hieroglyphic word

The hieroglyphic word	Pronunciation	The meaning
	ib	heart
	irt	eye
	msjr	ear
	rd	foot
	ghrd	child
	pt	sky

The hieroglyphic word	Pronunciation	The meaning
	mr	love
	nfr	beautiful
	htp	be peaceful, happy
	Kmt	Egypt
	thsm	dog
	miw	cat

Names of Egypt :

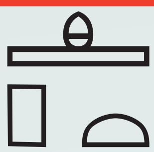
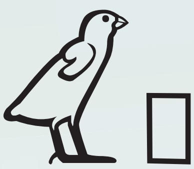
Egypt was known through the ages with a group of names that expressed the nature of its land and its geographical position, and the most important of these names is..

"Kmt" 



- Pronunciation: "Htp pw Kmt".
- Meaning: "It is Egypt of Peace (Al-Mahrousa)"

Words of the sentence:

The hieroglyphic word	Pronunciation	The meaning
	htp	peace
	pw	It is
	Kmt	Egypt

THEME 1: WHO AM I? – LIVING HEALTHY

LIFE SKILLS

Follow each direction. Write your answer neatly.

1- Copy the definition of “life Skills” that the class has agreed upon.

____

____

____

2- Below are some of the life skills we work on in the class this year. Put a star in front of the skills you are good at already. Put a circle next to the skills you need to improve upon.

_______ I am good at organizing my work and staying focused.

_______ I am creative and show my ideas in different ways.

_______ I find ways to solve my problems and help others.

_______ I can communicate my ideas in many ways.

_______ It is usually easy for me to explain my thinking.

_______ I like to set goals to reach.

_______ I listen and respect others’ opinions.

_______ I think about how others feel when playing or working together.

USING CRITICAL THINKING SKILLS

Look at the pictures below. These pictures are small parts of a bigger picture. Can you decide what the whole image is? Discuss with your Shoulder Partner, write your answers in the blanks, and then explain how you found your answers.



What do you think the image is?

____

What in the image helped you decide?

____

____



What do you think the image is?

____

What in the image helped you decide?

____

____



What do you think the image is?

____

What in the image helped you decide?

____

____

WHAT WOULD YOU DO?

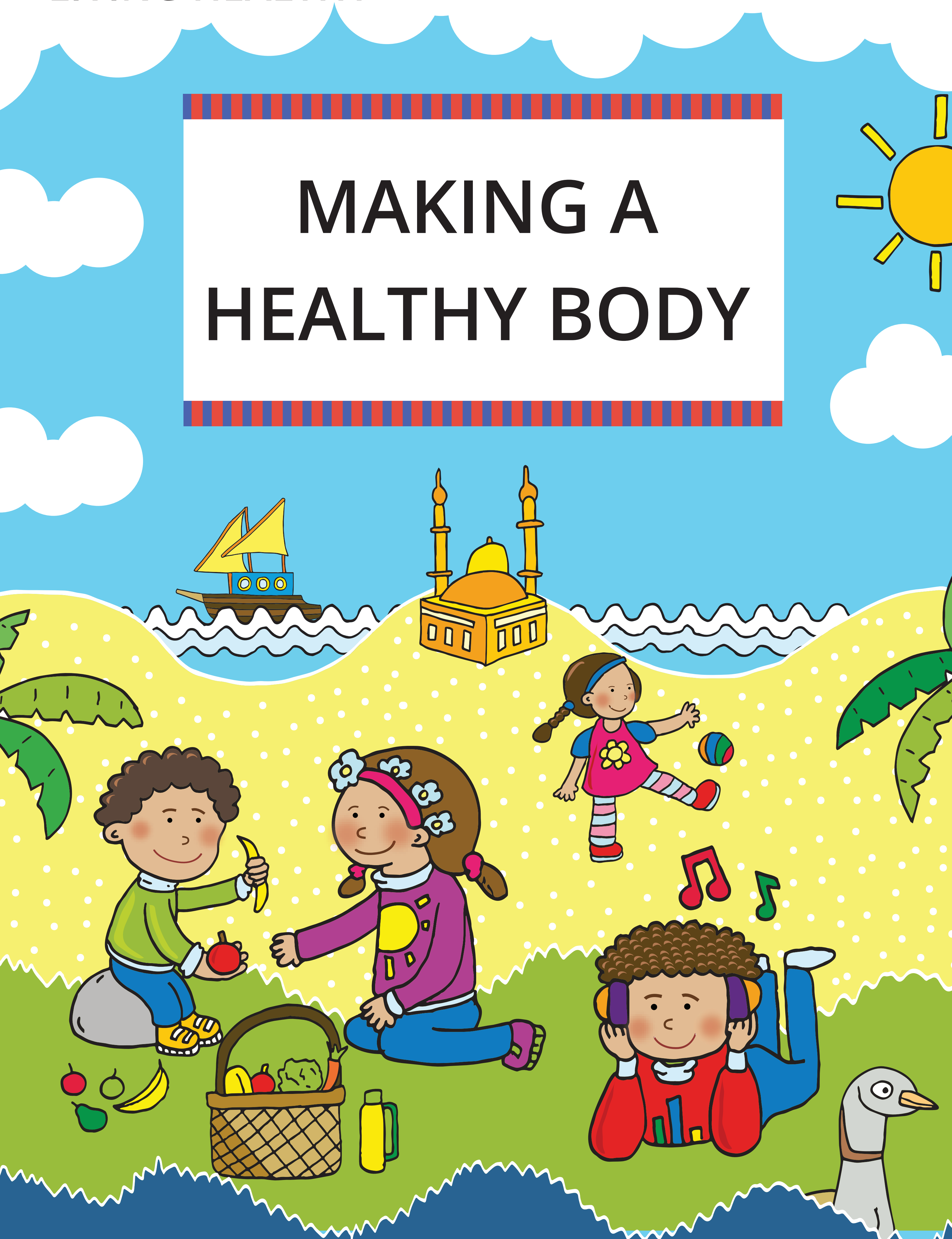
Match the solution you are most likely to use with each scenario. There may be more than one correct answer.

1. Your friend makes fun of someone in class.	a. Ask your friend to stop.
2. Your friend pressures you to do something you do not want to do.	b. Get help from an adult you trust.
3. Your friend does not listen to your ideas.	c. Walk away and find other friends to be with.
4. Your friend tells your secret to other people in class.	d. Be a friend—listen, support, and speak up.
5. Your friend spreads a rumor about someone in class.	e. Say nothing and walk away.
	f. Ask for an apology.

OUR CLASS PLEDGE

Write the class pledge neatly. Be sure to check spelling.

MAKING A HEALTHY BODY



YASMEEN'S CHOICES

Read the story.

Yasmeen came home from school feeling a little tired and grouchy. She did not feel happy and full of energy like she usually did.

She went to the kitchen and thought about what she could have. Soda or juice? She took a soda. What should she have for a snack? An orange or cookies? Yasmeen knew she should pick fruit, but she was feeling a little yucky. She thought the cookies might cheer her up.

Yasmeen went to the living room and sat down on the couch. She turned on the television.



Just then, Rashad and his father came in the room. They were both sweaty. Rashad sat down next to Yasmeen.

"You're all wet!" yelled Yasmeen.

"We were out running." he said. "Running helps me clear my head and makes my body feel good."

Yasmeen watched Rashad go into the kitchen and grab an orange. Then he poured two glasses of water. Yasmeen was not feeling any better. The cookies had given her a headache, and the soda upset her stomach.

Rashad sat down next to Yasmeen and turned off the television.

"This orange gives me more energy," Rashad said. "Why don't we go outside and play a little football, Yasmeen?"

This idea perked her up immediately. Yasmeen thought moving around might help her feel better. She chased her older brother outside.

HEALTHY OR UNHEALTHY

Read each activity. Decide if the activity is healthy or unhealthy. Circle your answer.

1. Skipping breakfast every morning. Healthy Unhealthy	2. Playing outside every day. Healthy Unhealthy	3. Eating fruits and vegetables. Healthy Unhealthy
4. Getting seven hours of sleep every night. Healthy Unhealthy	5. Having arguments with your friends often. Healthy Unhealthy	6. Sharing your feelings when you are sad or upset. Healthy Unhealth
7. Eating candy and snacks instead of lunch. Healthy Unhealthy	8. Watching TV and playing video games for hours. Healthy Unhealthy	9. Drinking water throughout the day. Healthy Unhealthy



HEALTHY HABITS

Read the text. Underline or highlight how each of the healthy habits helps your body. Answer the questions.

Get Enough Sleep: Have you ever stayed up late on a school night? What did you feel like in the morning? When you do not get enough sleep, you can get grumpy. Primary school children need around 10 to 12 hours of sleep every night. Getting enough sleep helps you think better and helps your body stay healthy and energetic.


Sleep helps our brains remember what we learn during the day.

Stay Positive and Calm: It is easy to get busy with activities like television and video games. It can be stressful if you stare at a screen for too long. When something goes wrong, it is important to have a positive attitude. Remember to take time to enjoy quiet activities that calm you. Some quiet activities are reading and taking a walk outside. Staying positive improves your mood. Staying positive and calm can also help your body fight some illnesses.


Reading is a quiet, calm activity.

Eat Healthy: Eating sweet snacks once in a while will not hurt you. But if you choose to eat those foods every day, you can harm your body. It is important to think about your food choices. Healthy food gives you nutrients your body needs and gives you energy to work and play.


Fruits, vegetables, and grains are healthy foods our bodies need.

Stay Active: Exercise, such as walking for an hour each day, keeps you active and helps your body stay strong. Staying active can improve your mood and help you focus on school.


A sport like football is one way children can stay active.

Get Enough Sleep

1. What is one reason you should get enough sleep?

2. What time do you usually get up for school?

3. What time would you need to go to bed to get 12 hours of sleep?

Stay Positive and Calm

4. What is one quiet activity suggested in the passage?

5. Name a quiet activity you enjoy that is not listed in the passage

Eat Healthy

6. What can happen to your body if you eat too many sweet snacks?

7. What is your favorite healthy snack?



Stay Active

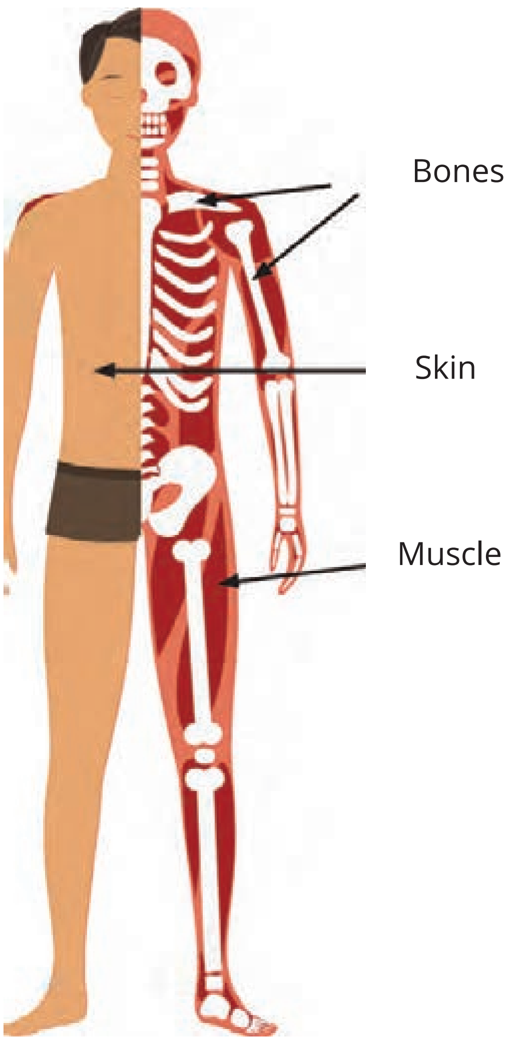
8. How can staying active help you at school?

SKIN AND HEART

Look at the picture. Identify the importnce of skin and heart.

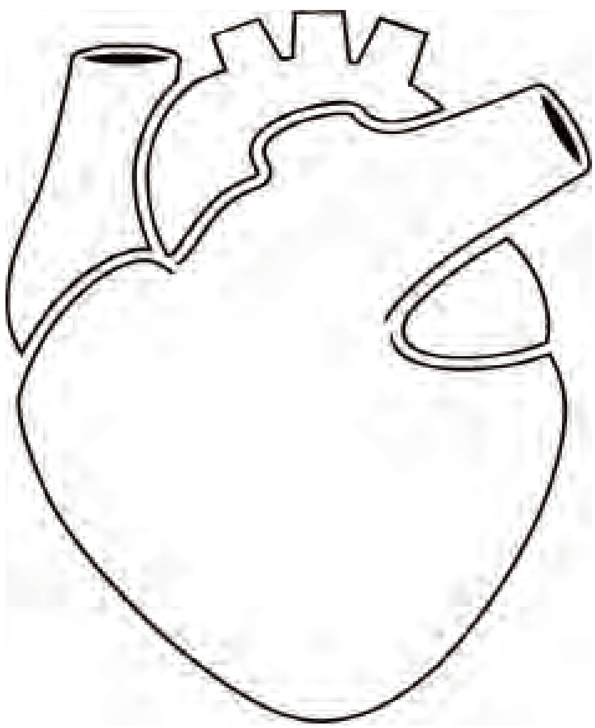
Our skin is all that stands between us and the outside world. It protects us from harmful germs and rays from the sun. It keeps fluids in and helps keep our temperature constant. Our skin weighs about 4 kilograms. It is the largest organ in our body.





Your heart has an important job. It keeps blood moving through your body. Blood carries oxygen and nutrients to every part of your body. The heart is a muscular organ about the size of your fist.





WHAT HAPPENS TO THE FOOD YOU EAT?

Read the text.

The body has a process that changes the food we eat into simpler parts. Once food is broken down, the body absorbs it to get energy.



Inside your stomach, muscles churn acid to further break down the food. Digested food moves to the intestines to continue the digestion process. The nutrients are carried away in the blood, giving all parts of the human body energy to run.

I observe : ______________________

____

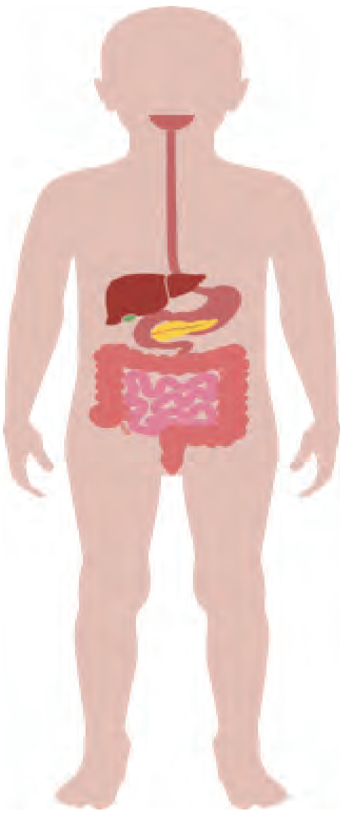
Answer the questions.

1. Why do our bodies need to digest the food we eat?

____

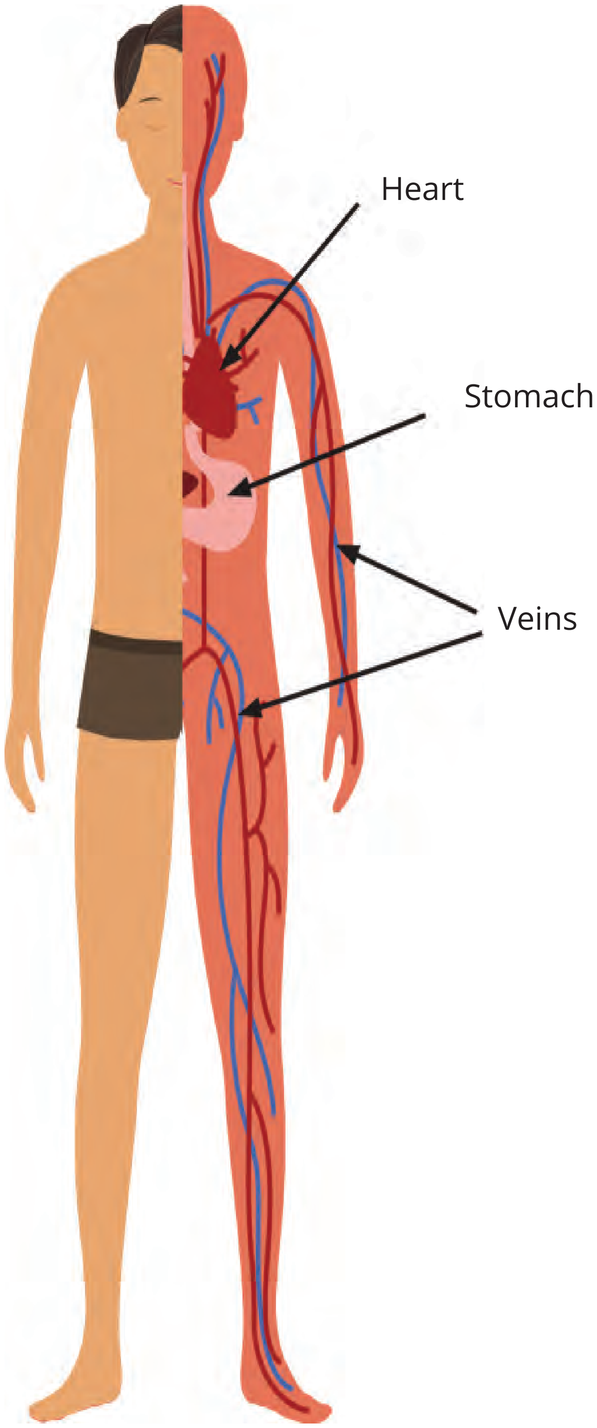
2. How does the stomach help digestion?

____



MY HEART

Write three sentences about heart



GET FIT WITH HEALTHY EATING



A CANTEEN AT SCHOOL

Read the story below. Circle unfamiliar words.

"Mother! Father! Where are you?" Rashad yelled as he slammed the front door closed.

"Rashad, please do not slam the door. We are here. Did you have a good day at school?" asked his mother.

"Yes, Mother. I had a very good day at school. Do you remember that we are learning about health in class?" replied Rashad as he chose a piece of fruit from the plate on the table.

Mother turned to Rashad with a smile. "I remember. I am very happy you are learning about health. I notice you are choosing much better foods for your snacks. What did you learn today that has made you so excited?"

"Since we have worked so hard, our teacher asked if we would like to have a canteen at school. Do you know what a canteen is?" Rashad hopped around his mother, waiting for an answer.

"Yes. It is a place to get food, such as snacks. Usually you pay for the food at a canteen. Will you be getting a canteen at school?" Mother seemed surprised to hear this news.

"Our teacher is wondering what foods we would want to have in a canteen. It is our assignment to give him ideas. I hope we can have a canteen. I think it would be fun. I should get started brainstorming." Rashad ran to the table to begin his list of foods for a canteen.



MY DIET

Read the definitions below. Write about or draw pictures of your diet.

Diet: (noun) The kind of food a person eats regularly.
A person's diet includes the amounts and types of foods they eat.

1. What is your diet? List the food you ate yesterday as part of your diet.

BREAKFAST	LUNCH	DINNER	SNACKS

Nutrient: (noun) An element of food that provides energy and is necessary for healthy growth.

2. Think about your diet. Which foods on your list do you think have nutrients to help your body?

VITAMINS AND MINERALS

In which foods will you find the vitamins and minerals you need? Look at the charts to find your answers.

Vitamins: (noun) important nutrients that are needed for normal growth and nutrition. The body needs many different vitamins in small amounts.



Minerals: (noun) Substance needed by the human body for good health. Minerals help form strong bones and teeth.



WHY WATER MATTERS

Read the information about water. Circle the words you do not know.

Have you ever noticed what happens to a plant if you forget to water it? The leaves will droop, and the plant can start to look limp. Plants need water to stay healthy. People need water just as much as plants do. Can you imagine people drooping from not drinking enough water? It happens, you just cannot see it as easily.

What does water do for your body?

Did you know that your body is mostly water? It is in every part of you. To make sure your body is working properly, you need to drink enough water. Water:

- Keeps your body temperature at the right setting.
- Helps your joints move correctly.
- Keeps your bones cushioned.
- Gets rid of toxins and waste.



Why do we need to drink water?

Every day your body loses a lot of water from sweating and going to the bathroom. You lose water all the time, even when you breathe. If you lose too much water without replacing it, you can become dehydrated. That's why you need to drink water every day. You probably have not had enough water when you:

- Feel thirsty.
- Have a headache.
- Are tired (even if you got enough sleep).
- Feel dizzy or weak.



DOUBLE ENTRY JOURNAL

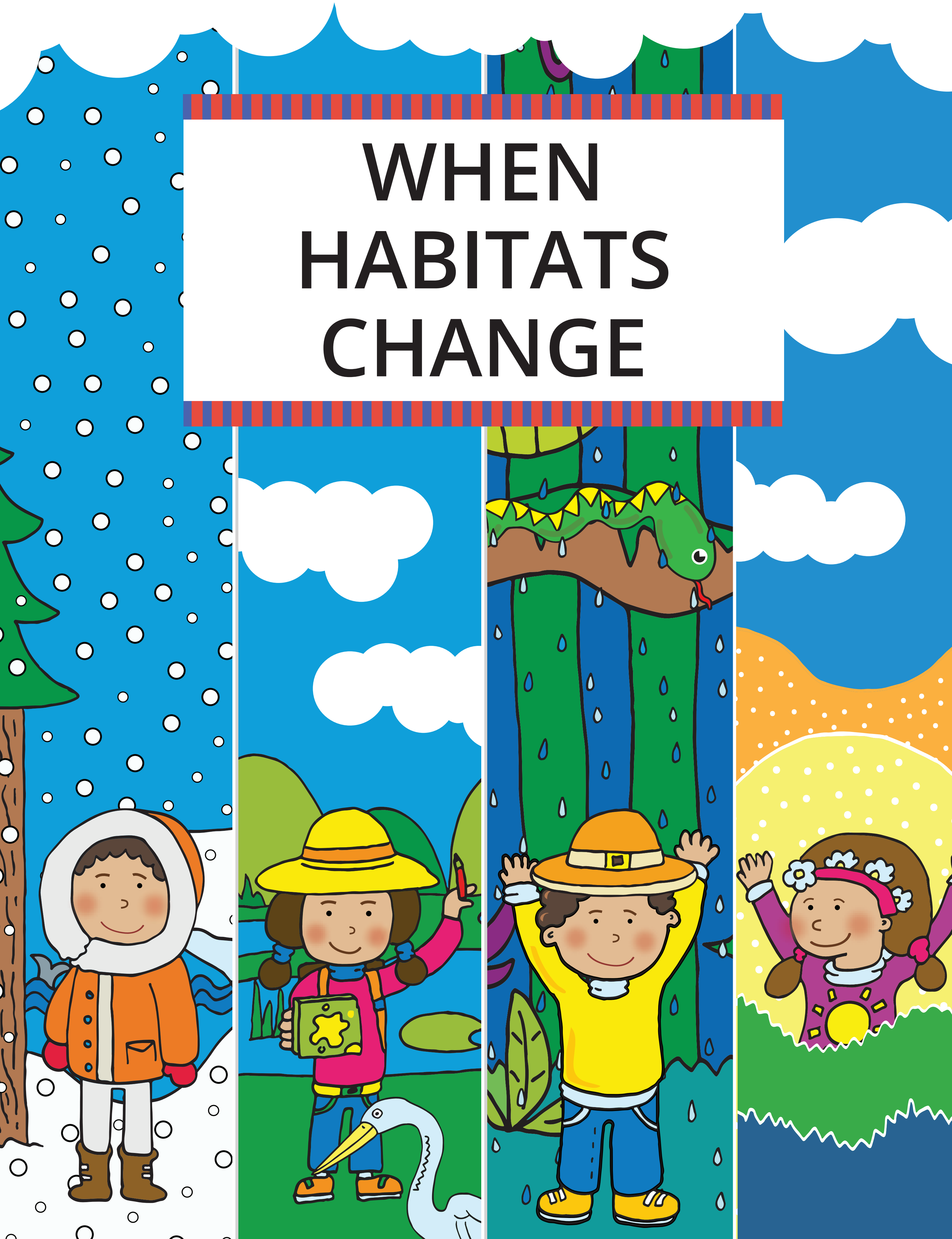
In the first column, record one important fact for each section of the text. In the second column, write what you think about the information you recorded.

THIS INFORMATION IS IMPORTANT	I THINK...
What does water do for your body?	
Why do we need to drink water?	
Will any drink keep me hydrated?	

TAKING CARE OF OUR WORLD

CHAPTER 1

WHEN HABITATS CHANGE



NEEDS OF LIVING ORGANISMS

Underline examples of how plants and animals use the non-living parts of the habitat.

Animals need food, water, and shelter to live. They get these things from their habitat. Animals can move around to find food, water, and shelter. Many birds and insects can fly. Animals such as deer, lions, and rabbits can walk, run, or hop. Squirrels and monkeys can climb trees.

FOOD

Animals get food in different ways. Lions chase and catch other animals for food. Rabbits eat plants. Raccoons and vultures eat dead animals that they find.



Rabbits take shelter in a burrow in their habitat

SHELTER

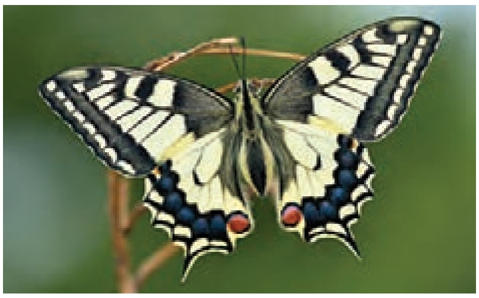
Animals also have different ways of getting shelter. Some birds build nests in trees. Moles and rabbits make holes or burrows in the ground. Squirrels and owls can use holes in trees. Animals such as crayfish, turtles, and frogs can hide under rocks.



Some organisms drink water from puddles

WATER

Animals have different ways of getting water, too. Some drink water from ponds, streams, or even puddles. Others drink water that has collected on plant leaves after a rainfall. Some animals live in water, so they are surrounded by it all the time.



Some living organisms move to new habitats when the seasons change.

When water, food, or shelter is hard to find, some animals move to other habitats. In Africa, zebras and elephants can walk many miles to look for water. Monarch butterflies fly south in the winter. They move to where the weather is warmer and there is more food.

IS THIS THE BEST HABITAT?

Choose one resource on ocean habitats to read. Write about one animal that would survive well in the habitat and another animal that would not survive well. Use evidence from your reading to support your answer.

______________________ can live in an ocean habitat.

How does the ocean meet its needs?

- ______________________
- ______________________
- ______________________

______________________ cannot live in an ocean habitat

What needs are not met?

- ______________________
- ______________________
- ______________________

CHANGES IN THE ENVIRONMENT

Use one crayon to underline the cause and a different colored crayon to underline the effects of changes in the environment.

Natural disasters and other non-living things can affect the ability of living organisms to meet their needs in an environment.



DROUGHT

When there is no rain for a long time, the land becomes hard and cracked. Small ponds, rivers, and lakes can dry up. Plants may not be able to survive without enough water and animals may be forced to move to look for water. The share of food at clean water available to humans and animals is revered.



FIRE

Wildfires can start when lightning strikes dry land and grasses. They can also start when a human-made fire gets out of control. Wildfires can harm the habitats of many plants and animals. Animals must leave to survive. Smoke from the fires pollutes the air. Fires can also help clean out dead litter on a forest floor. This allows important nutrients to return to the soil.



FLOOD

When dry land becomes covered with more water than the soil can hold, it creates a flood. A flood can be caused by heavy rains and storms. Floods can wash away soil and plants. Animals that cannot live in water must also move away from the flooded area. Floods can also bring new seeds and nutrients to the land.



POLLUTION

Pollution can be caused naturally by volcanoes. Humans can also cause pollution by throwing trash or dumping chemicals into waterways, using machines that pollute the air, and leaving garbage on the land. Pollution in the air, water, and land can destroy habitats and harm wildlife.

PLANTS AND ANIMALS CAN CAUSE CHANGE

Look at the pictures and think about ways each living organism might benefit and harm the environment.



Goats grazing on the land.



Water hyacinth (ward el Nile) on the surface of a river

RESEARCH

Research how one of the following living organisms benefits or harms the environment.



Squirrels hide nuts from trees.



Kangaroos graze on grassland.



A snakehead fish eats other fish and insects.



Freshwater crayfish feed on buds of plants

My living organism: ______________________________

Ways it benefits the environment

____

____

____

Ways it harms the environment

____

____

____

Picture of my living organism

WATER, WATER EVERYWHERE



RASHAD AND ZEINA VISIT THE MUSEUM

Read the story and underline important facts about an oasis. Circle any words you do not know.

Rashad and Zeina visited a museum with their class. Their favorite exhibit was about life in Siwa. The museum display provided many interesting facts about an oasis. There was a picture on a map showing where the oasis is located. There was a basket and jar of olive oil to show how plants are used by the people who live there. Rashad and Zeina looked at a colorful chart that stated the average yearly temperature and rainfall. They wondered how the water cycle affects this environment.



Rashad's assignment was to record some facts about water in the oasis. Here is the description he read:

An oasis is a place in the desert where water comes up to the surface, forming springs. This water comes from rain that falls to the ground and soaks deep into the earth. A spring is water bubbling up to the surface. Siwa oasis has nearly 200 springs, making it Egypt's biggest.

Zeina's assignment was to record notes about the oasis as a habitat. Here is the description she read:

This area has highlands, wetlands, and sand dunes. Water is very important here. The oasis helps date palm trees and olives grow. Plants like Egyptian acacia trees help block sandstorms. There are also plants like spearmint and basil.

The oasis is also rich in many kinds of wild animals, including the red-fronted gazelle and white deer. In addition, cheetahs, hares, and wolves have been observed here. Scientists have also spotted birds, such as houbara bustards, turtle doves, and greater flamingos. Did you know there are also more than 30 different kinds of reptiles and bugs in the oasis?

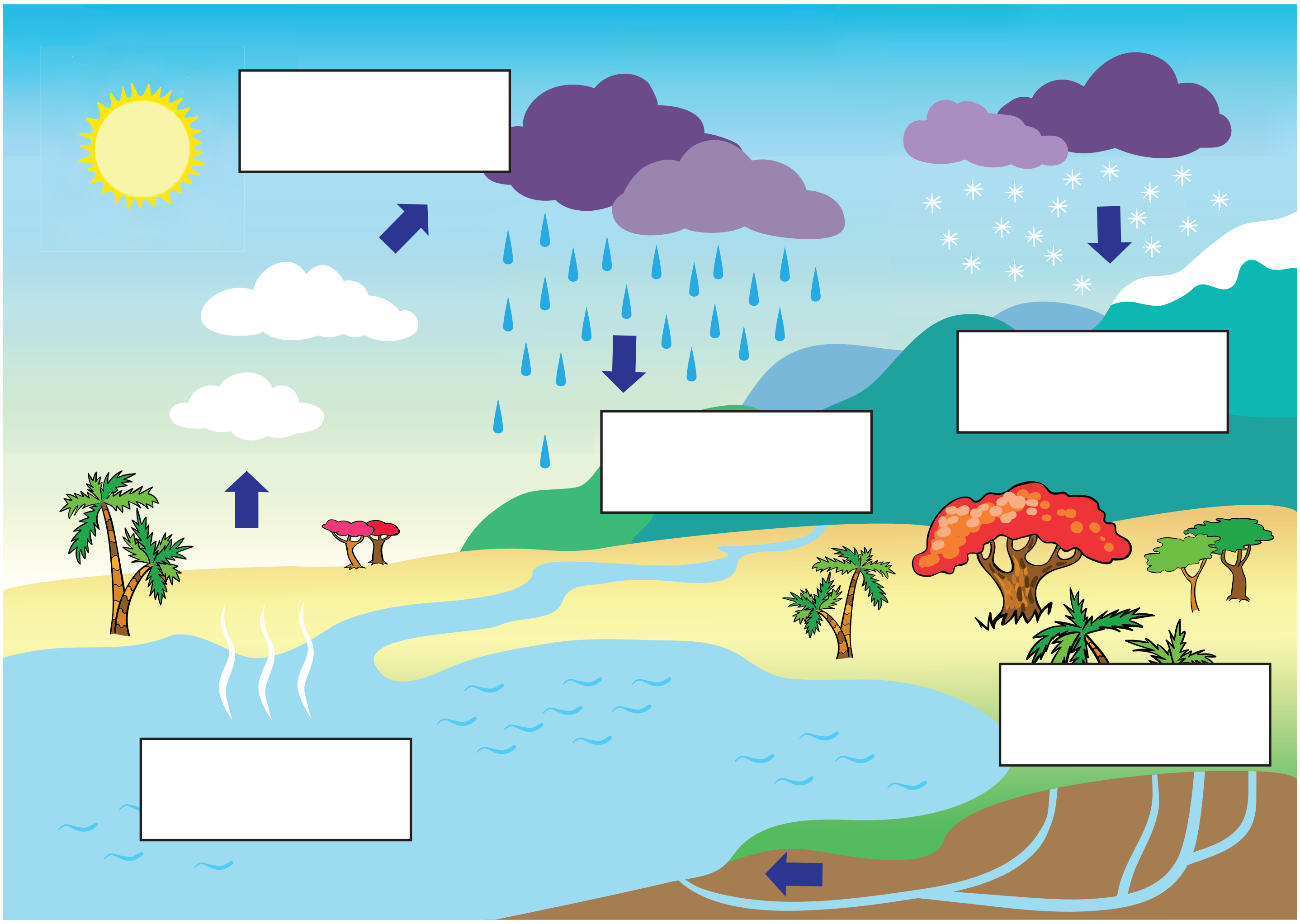
Before they left, Rashad and Zeina stopped to read one last description of how humans interact with the environment at the oasis:

Siwans sell dates and olives all over the world. Dates and olives are also eaten and used in different forms in cooking. Many people use the palm fronds, or leaves, to make baskets to sell. Spearmint, basil, and dates are also used for medicines.

THE WATER CYCLE IN NATURE

Use the words in the box to write the correct word on the correct part of the water cycle.

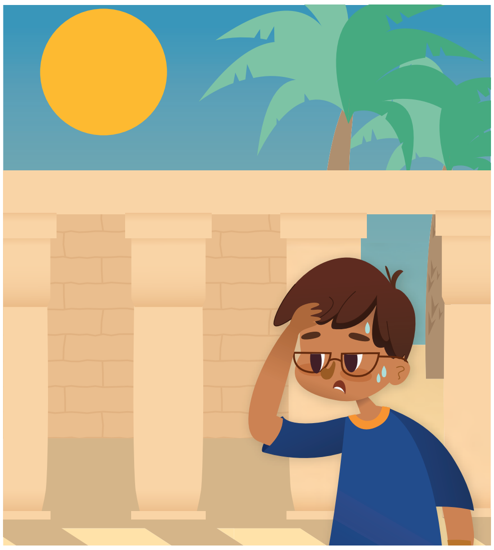
evaporation	condensation	groundwater
precipitation		runoff



COMPARING EGYPT'S CLIMATES

Read the story to learn about climates in Egypt.

"My favorite time of the year is winter in Alexandria because the temperatures always feel a little cooler," said Rashad. "Even though it is rainy, I like the break from the hot and humid summer."



"One time we went to Luxor to visit family in the winter," replied Zeina. "But it was still so hot, and it had not rained in months. I was happy to get back home."

"That is so strange. Luxor and Alexandria are both in Egypt. I wonder why the weather was so different. Is it always like that?" asked Rashad.

"I think so," said Zeina. "Luxor has a desert climate. It is hot and dry. But I still wonder if it ever rains there."

ALEXANDRIA - AVERAGE TEMPERATURE												
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Min (°C)	9	9	11	13	17	20	23	23	21	18	14	11
Max (°C)	18	19	21	24	27	29	30	30	30	28	24	20

ALEXANDRIA - AVERAGE PRECIPITATION													
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Year**
Prec.(mm)	55	30	15	4	1	0	0	0	1	9	30	55	196

LUXOR - AVERAGE TEMPERATURE												
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Min (°C)	6	7	11	16	20	23	24	24	22	18	12	8
Max (°C)	23	25	29	35	39	41	41	41	39	35	29	24

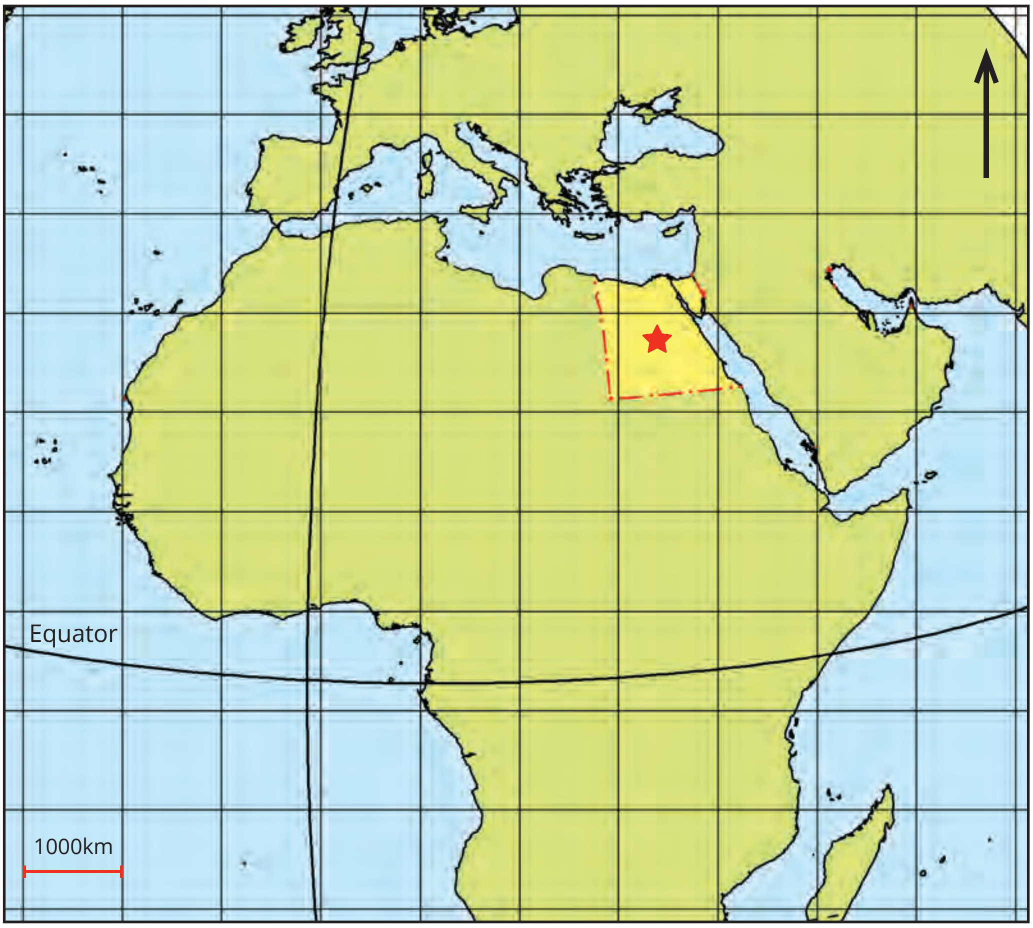
LUXOR - AVERAGE PRECIPITATION													
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Year**
Prec.(mm)	0	0	0	0	0	0	0	0	0	1	0	0	1

AFRICA

Label the bodies of water surrounding Egypt. Use the map scale to determine the distance from Egypt to each body of water listed below the map.

North Atlantic Ocean | South Atlantic Ocean | Mediterranean Sea

Indian Ocean | Red Sea | Gulf of Aden



Distance from Egypt to:

North Atlantic Ocean ________________ km

South Atlantic Ocean ________________ km

Indian Ocean ________________ km

Gulf of Aden ________________ km

CHAPTER 3

HOW CAN I HELP?



ALEXANDRIA HEAVY RAINS

Read the story with a partner.

Zeina was playing at Rashad's house after school. It was raining outside.

"It has been raining all day. I wish we could go outside," complained Rashad.

"I know," replied Zeina. "Every time it rains this much, I worry about flooding." "Flooding?" asked Rashad.

"Yes. That is when it rains so much that water covers areas that are not normally under water. Sometimes it comes up from the sea. Sometimes it happens because the streets do not drain well when it rains a lot," explained Zeina. "Do you remember the heavy rains that fell here in Alexandria when we were around 3 years old?"



"No, I don't remember that," said Rashad.

"Oh yes. My uncle is a fisherman. He lived on the sea, but the water came into his home and ruined it. In some places, the area was no longer safe. He had to move to a new home," said Zeina.

Rashad's mom was in the kitchen and was listening. "After the heavy rains, we were all stuck at home for over a week. We could not go into the streets because they were covered in water," she said.

"Wow. That sounds scary," said Rashad.

"The rain also washed away my favorite beach," said Rashad's mom.

"I wonder if there is a way we can help protect our home from heavy rains,"said Rashad.

IDENTIFYING IMPACTS

Record the impacts of heavy rains that you read about in the story. Add other impacts that you can recall from previous learning.

PEOPLE	ENVIRONMENT

HEAVY RAINS IN 2015

Read the nonfiction passage about the heavy rains in 2015. Then record two key details from the reading.

In October of 2015, Alexandria experienced unusual and extreme rainfall. On average, Alexandria receives 20 cm of rain a year. During the 2015 event, the city was drenched with more than 20 cm of rain in just two days. The heavy rains impacted the local environment and the citizens of Alexandria.



Water covered roads and entered the street level of businesses and other buildings. It was difficult and dangerous to leave buildings while the streets were under water. Traveling in the city was also difficult. People were unable to go to work for over a week.

The water from heavy rains built up quickly. Pipes and canals built to carry the water away were overwhelmed. Some people were out for the day and had trouble getting home.

In these critical times, citizens helped one another get safely home. Some even brought nearby fishing boats onto the streets to help get people to safety. Neighbors shared food and supplies while stores were not open. Police helped guard the town. They directed people around dangerous areas. Emergency responders worked to help people who were sick or injured.

After the heavy rains, the local government began looking for ways to minimize the effects of heavy rain in the future. Some solutions, such as better drains and more pumps were quickly installed. Technology solutions, such as warnings sent to cell phones and computer sensors that can measure water depth, have also been considered.

BEING A GOOD CITIZEN

Read the story. Listen for examples of volunteering.

Rashad and Zeina continued thinking about the heavy rains in Alexandria on their way to school the next day.

"I think it is really cool that Egyptians helped one another in a time of crisis from the heavy rains," said Zeina. "I will ask my uncle if he did that too."

"People helped other people. That is pretty awesome," added Rashad.

"If I was old enough, I would have helped bring food to people stuck at home. What would you have done, Rashad?" asked Zeina.

"I am not sure. I wonder if my favorite bakery would have needed help cleaning up after the rain. Maybe I could have helped them," offered Rashad.

"That is a great idea. When we get to school, let's see if our teacher did anything to help the school after the heavy rains," called Zeina as she started running to get to school.



FLOOD PREVENTION

Look at the images of each flood prevention method.



Dams: Dams are used to stop rising water from entering a river or canal. After the rain stops, the water can be slowly released, preventing severe flooding.



Sandbags: People put sandbags around their property to prevent floodwaters from entering. The moving flood waters are diverted around the sandbags.



Canals: Flood waters are diverted into canals to move the water away from city areas. Canals can lead either to larger bodies of water or to temporary ponds.

WHAT MAKES A GOOD LEADER?

Circle the traits or characteristics that make your selected person a good leader.

calm	brave	funny
bossy	responsible	moody
lazy	mean	polite
generous	wise	cooperative
selfish	angry	cowardly
loyal	caring	helps others
	good communicator	



A PROBLEM AT THE OASIS

Read the story, answer the question, and label the pictures with the bold words in the story.



The oasis brings clean water from deep underground to the surface. In the past, people created a shadoof to gather and use water from the oasis. **A shadoof** is a pole with a bucket and a weight, like a large stone.

____



Today we can use modern technology to pump water from deep wells. **A freshwater pump** uses electricity and pipes to move large amounts of water. That means more water can be used. If more water is available, people can irrigate more crops. A larger date palm orchard can mean more income, or money earned from selling things.

____

But the new technology also has challenges. If too much water is pumped, it can sit in unused ponds and be wasted. It takes a long time for small amounts of rain to replace the underground water in an oasis. People have to think about how to balance earning more money and protecting the environment.

ADVANTAGES AND DISADVANTAGES

Consider the effects of posting a camera at school to help with an anti-littering campaign. Brainstorm some advantages and disadvantages of this technology.

1. What are some advantages of using camera technology?

2. What are some disadvantages of using camera technology?



HOW THE WORLD WORKS

ORIGINS

CHAPTER 1

THE SECOND TERM

PATTERNS OF CHANGE



A LITTER OF KITTENS

Follow along as your teacher reads.

Have you ever seen a litter of newborn kittens? A litter usually has between two and five kittens. All of the kittens in the litter have the same parents. The kittens look similar to their parents but not identical. The kittens also look similar to each other but not exactly the same. Why is this?

All types of living plants and animals can make more of their kind. When new living things are made, they are called offspring. Offspring look similar to their parents because parents pass inherited traits to their offspring. Traits are characteristics that make an organism look and behave the way it does. In kittens, fur color is a trait. Some kittens might inherit the same fur color as their mother. Other kittens might inherit the same fur color as their father.



Kittens get the color of their fur from their parents. Kittens in a litter can look similar because they have the same parents.

Kittens in a litter all have the same parents. Each kitten receives some traits from its mother and some traits from its father. The parents pass different inherited traits to each kitten. So, each kitten receives a different combination of traits. This is why the kittens in a litter do not look exactly the same. Kittens do not receive all of their traits from their parents. The kittens can develop some traits as they grow and live in their surroundings. For example, a kitten's claws can be removed. Not having claws becomes one of the kitten's traits. However, this trait is not inherited. When the kitten grows and has its own offspring, they will still be born with claws.

FELINE PARENTS AND OFFSPRING

Observe the parents. Match the offspring to its parent.

















PARENTS AND OFFSPRING

Read the text with a partner. Underline or highlight important facts about living organism traits.

All types of plants and animals can make more of their kind. These new living organisms are called offspring. All offspring are similar to their parents. Offspring look and behave in ways similar to their parents. Young zebras have stripes and eat grasses like their parents.



This happens because parents pass information to their offspring before the offspring are born. This information determines traits the offspring will have. Traits are characteristics or features that make an offspring look and act the way it does. For zebras, the pattern of stripes on their bodies is a trait.

Offspring usually get some traits from their mother and some from their father. In this way, the offspring are not exact copies of their parents.

HELP ME SURVIVE

Observe the images. Identify the living organism traits. Discuss how the traits could contribute to survival.





ALL ABOUT BLUBBER

As you read the informational text, use the following colors to reflect on your learning. Mark the parts you can explain to someone else in blue. If there is something you are still confused about, mark it red. Use green to mark something new or exciting that you learned.

In the hands-on activity, vegetable shortening is used to represent blubber in the body. Vegetable shortening is a solid fat. Like other fats, it is a great insulator. An insulator slows the movement of heat.



When you feel cold, heat is moving from your body to the environment. When you put your hand in the shortening bag and then in the water, your hand stays warm. You likely do not feel the icy cold water in the bowl. This is because the heat from your hands moves slowly into the shortening. When you put your hand in the empty bag and then into the water, you immediately feel cold. The heat from your hand moves quickly into the ice water.

An animal without enough insulation from fat, blubber, or fur might lose too much heat. If an animal's body temperature gets too low, it will not be able to move and live normally. Fat and blubber are very important to animals around the world.

The bodies of animals in cold climates have adapted over the course of many generations. Cold climate animals might have other adaptations too. Some can shiver to keep their muscles warm. Some fluff their feathers to trap warm air near the body. Some animals also have thick fur and extra layers of insulating blubber, so less heat escapes the body.



FUN FACT

Camels live in some of the hottest climates on Earth and carry up to 80 pounds of fat just in the humps on their backs. Why? Fat is stored energy and water. Camels can survive for up to seven days with no water and three weeks with no food by breaking down the fat in their humps. The fat also helps them stay cool during the hot days and warm during the cool nights.

CAN YOU SEE ME?

Circle the animals camouflaged in each picture. Then write a sentence to explain how camouflage can aid in survival.











BEAKS

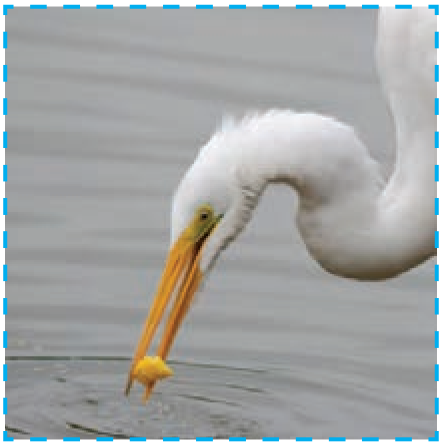
Refer to this page as you investigate bird beaks.

SPOON BEAK

SCISSOR BEAK

TWEEZER BEAK








CLOTHESPIN BEAK




BEAK INVESTIGATION

Study the tools that represent the various beaks. Predict which you think will collect the most food. Follow instructions from the teacher .

Prediction: I think the ______________________________ beak will get the most food.

BEAK	PAPER CLIPS	RUBBER BANDS	TOOTH-PICKS	SMALL PASTA	SEEDS	DRY BEANS	RICE
______________							
______________							

Class Data: Add the three highest results for each beak type and each type of food, then enter the total on this table. For example, if the three highest numbers of paper clips collected by spoon beaks were 7, 6, and 5, you would enter 18 in the table where there is a star.

BEAK	PAPER CLIPS	RUBBER BANDS	TOOTH-PICKS	SMALL PASTA	SEEDS	DRY BEANS	RICE
Spoon	★						
Binder Clip/ Clothespin							
Tweezers							
Scissors							

CHAPTER 2

A NEW LOOK TO ANCIENT ART



ALEXANDRIA NATIONAL MUSEUM

Follow along as your teacher reads. Underline art forms observed in the story.

Rashad and Zeina walked into the Alexandria National Museum with their class.

"I cannot wait to see all of the interesting artifacts from Alexandria a long time ago," exclaimed Rashad. Rashad loved history and knew he would learn a lot from the museum trip. Zeina was not as excited. "This museum is full of old things. I can read about history in a book," sighed Zeina.

In the first room, Rashad was impressed by the large sculptures of Egyptian rulers and some of the tools used during that time period. "I wonder what it would have been like to talk to this ruler," wondered Rashad. "I can show you where to read about them. Books can teach you all about what they were like," explained Zeina. Rashad pointed to the sculptures and portraits around the room. "But don't you think this is more interesting? I like seeing what they might have looked like," answered Rashad. Zeina just shrugged her shoulders.

As they continued through the museum, Rashad slowed down to examine the canopic jars made from clay. "Zeina, look at these. They were part of the tombs."



"Let's keep going Rashad. Thinking about the tombs is a little scary," said Zeina.

On the third floor they found a room filled with jewelry. "Wait. What are these? They are so colorful and detailed," said Zeina. She paused to examine the necklaces and bracelets. "The sign says these are all from the royal family of Muhammad Ali. Isn't the detail amazing? I love all of the patterns and colors. Sometimes jewelry really looks like art," said Rashad.

"I could look at these all day. Rashad, was the jewelry from Ancient Egypt this detailed?" asked Zeina. "Of course. The jewelry is even more amazing because it was made so long ago," Rashad explained. "I would be interested in learning more about that. Let's keep going," Zeina said as she eagerly pulled Rashad's arm.

WHEN WAS IT MADE?

Collaborate to estimate when each was created and place them in order from oldest to newest.



A



B



C



D



E



F



G



H

RAW MATERIALS

Label the raw materials, then match each to its finished product.











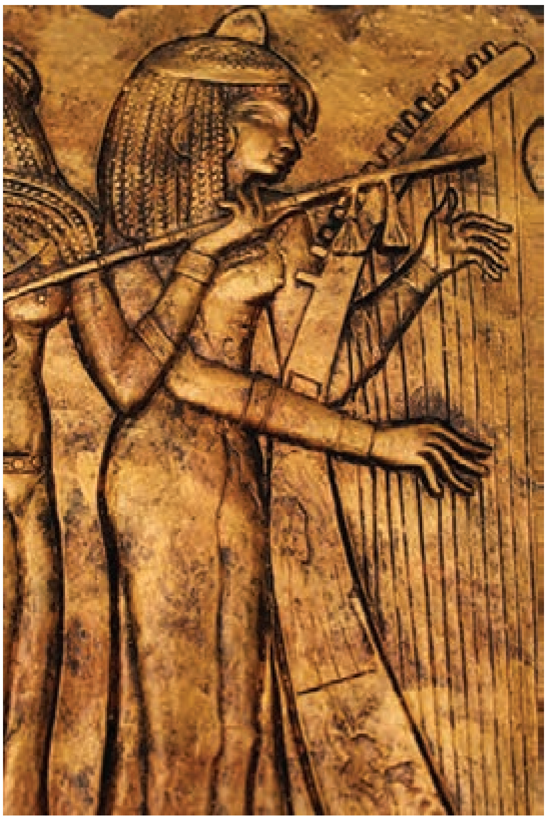


ORIGINS OF EGYPTIAN MUSIC

Describe the instruments you see pictured.







SCULPTURE IN EGYPT

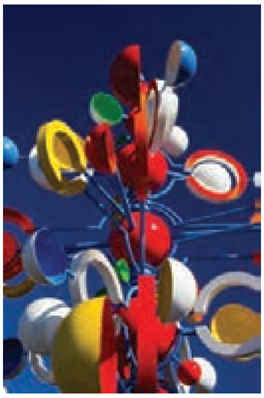
Look carefully at the pictures and record your observations.














ANCIENT PAINTINNGS

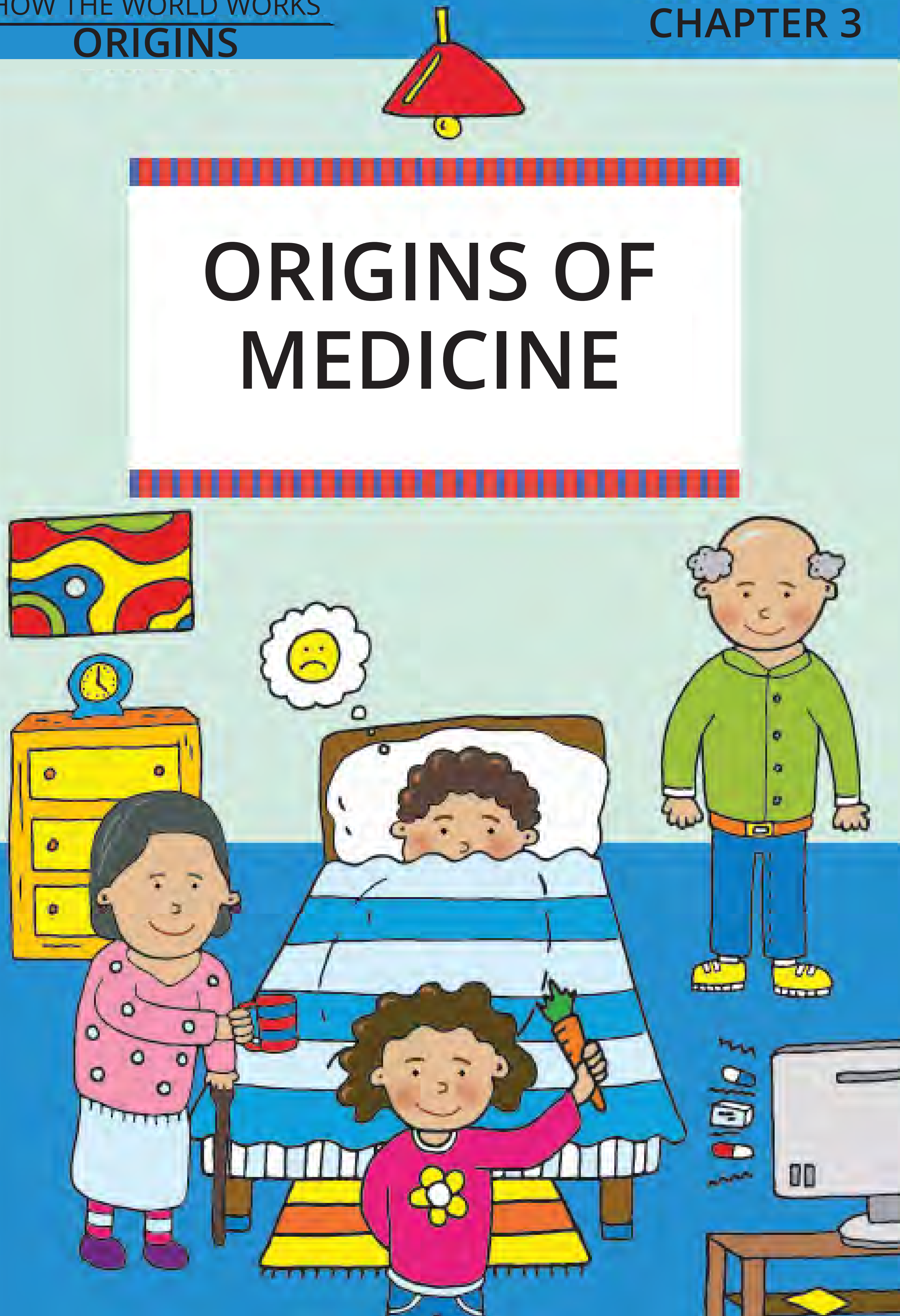
Observe the paintings.







ORIGINS OF MEDICINE



RASHAD IS SICK:

Read the story.

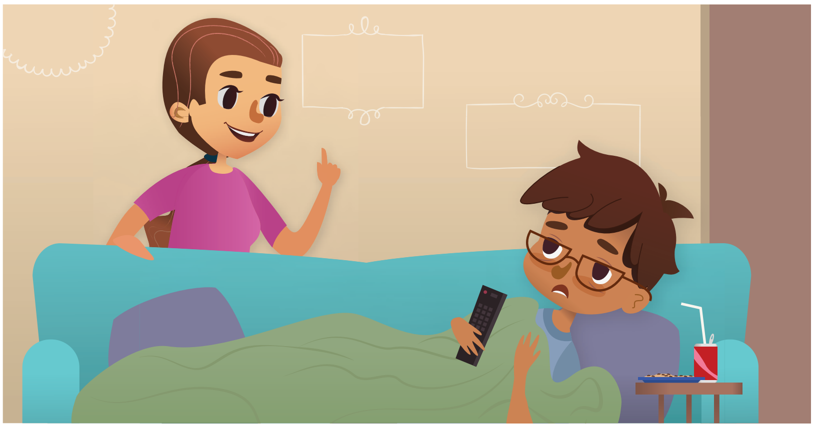
When Rashad woke up, his body still felt tired and his throat was sore. Rashad slowly got out of bed and made his way down the hallway from his bedroom.

"Mom, I do not feel very good this morning," Rashad moaned

"You have a fever, darling. No school for you today. Go lie down on the couch and I will be in with a cold towel for your head. It will help your fever," instructed Rashad's mom.

Rashad turned on the TV and lay on the couch. A commercial came on the screen.

"Headache? Body hurts? Fever? Just take a couple of these, your fever will be gone, and you will be ready to start your day. This is the best medicine you can take. No prescription needed. You can buy a bottle at a nearby pharmacy. Go now. Do not wait to feel better," the commercial called out from the screen.



When Rashad's mom came back into the room with a cold towel, Rashad asked her if they had the medicine featured in the commercial.

"The commercial just told me it will make my fever go away. It probably works better than a cold towel. I do not like putting a cold towel on my head. It gets me all wet," whined Rashad.

"No, we do not. I do not like that medicine. It makes you feel too drowsy," explained Rashad's mom.

"Hmm. The commercial did not say that. Well, is there anything else I can take to feel better? I hate feeling sick," Rashad said.

"Let me think a moment. I want to try a few other treatments at home before we go buy any medicine. I will go read some suggestions online," replied his mom.

Rashad's dad came to check on Rashad. "You do not look so good. I think you need more than a cold towel for your fever or a warm drink for your sore throat."

Rashad's mother joined them near the couch.

"I think we should take him to the doctor if his fever is not gone by this evening," said his father. "The doctor will know how to make Rashad feel better."

FACT, FICTION, OPINION

Read each statement. Decide whether the statement is fact, fiction, or opinion, and then write your answer next to the statement.

Fact | Fiction | Opinion

1. Exercising is a healthy habit. ____________
2. Eating healthy food is the best thing you can do for your body. ____________
3. Jumping rope is the most fun way to exercise. ____________
4. Eating sugary cookies will make me as strong as a superhero. ____________
5. Getting enough sleep is important to my health. ____________
6. Skin protects our body. ____________
7. Taking brain breaks is a fun way to help me focus. ____________

TREATMENT OPTIONS

Use the Rashad story to complete the chart.

SOURCE FOR INFORMATION	TREATMENT	FACT, FICTION, OPINION?

Complete the sentence to answer the question: Which treatment do you think Rashad should choose?

I think Rashad should ____

because ____

IMHOTEP

Follow along as the text is read aloud. Complete the 3-2-1 reflection.

The Edwin Smith Papyrus is known around the world for its descriptions of ancient Egyptian surgical and medical practices. The papyrus is dated to between 1500-1700 BCE, but it may be a copy of a text from even earlier. It is not clear whether Imhotep himself, or his students or followers, wrote the text.

The Edwin Smith Papyrus describes almost 100 terms for body parts. It also describes at least 48 injuries and ways to treat them. An interesting part of this text is the modern approach it takes to treating injuries. Every injury is described with the treatment, a likely outcome, and notes.

The examinations described by the papyrus follow a process similar to modern doctors. People are asked where they are hurt or feel pain. This question is followed by an examination of the injury when possible. A likely outcome is recorded after every entry. Each record begins with the phrase, “An ailment I will handle,” or “An ailment I will fight with,” or “An ailment for which nothing can be done.”

Imhotep may have identified and treated over 200 diseases in his lifetime, even though he was not a physician. His scientific approach to illness and injury eventually became a foundation for modern medical fields.

3 FACTS I LEARNED	______________________ ______________________ ______________________
2 FACTS I FOUND INTERESTING	______________________ ______________________ ______________________
1 QUESTION I STILL HAVE	______________________ ______________________ ______________________

PRIMARY AND SECONDARY SOURCES

Circle the secondary sources.

I was watching TV and one of the reporters said I should see a movie she really liked. **Source:** a movie recommendation	My sister left a letter she wrote to her best friend on the kitchen table. **Source:** a letter
I was playing with my cousins and found my grandparents' marriage certificate. **Source:** government document	At school we use textbooks to learn about many different people and events. **Source:** textbooks
I like to read magazines for kids. I really like the stories about famous people who are in movies. **Source:** magazine stories about actors	My mom has recordings of my grandparents telling stories about when they were kids. We love to listen to them before bedtime. **Source:** audio recordings of family talking about their lives
When I visit my aunt, she shows me pictures of my parents when they were little. **Source:** photographs of family members	My friend told me about a book he read that he really liked. He said I should read it too. **Source:** book recommendation
When I was on vacation last year, I found a piece of pottery. **Source:** piece of pottery	I am writing a report on Cleopatra and my friend lent me her encyclopedia. **Source:** encyclopedia

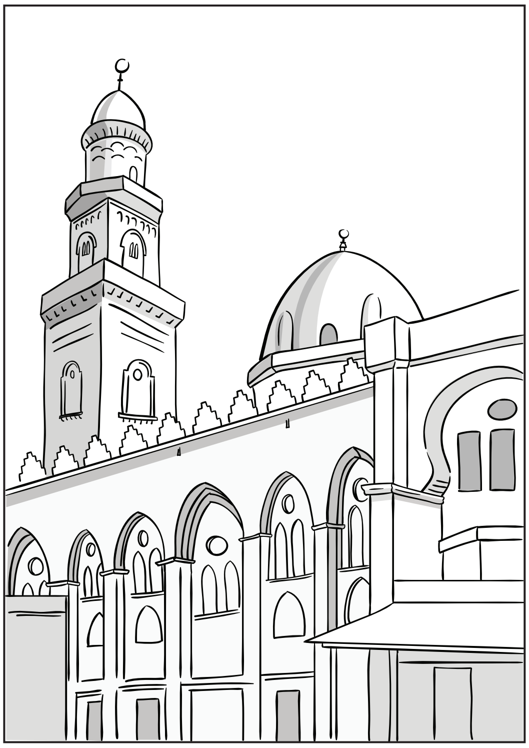
HOSPITALS THEN AND NOW

Read the text.

THEN

In Egypt, the first known hospital was built in the southwestern quarter of present-day Cairo in 872 CE. It was one of the first places that did not just comfort the sick but also tried to treat diseases.

One of the largest hospitals ever built was the Mansuri Hospital in Cairo, completed in 1248 CE. The building could hold more than 4,000 patients. There were different areas for different conditions. It had a huge domed lecture hall, a school, and an orphanage. There was also a mosque for Muslim patients and a chapel for Christian patients.



Experienced doctors taught students in a medical school and library that was attached to the building. Each doctor had his own personal book collection, written by hand.

A doctor would visit each patient and record his observations on the patient's card. He based his treatment on his observations. Patient details were discussed at weekly meetings.

Special steps were taken to prevent infection. Patients were given hospital clothing and had beds with clean sheets. Every day, inspectors checked the cleanliness of the hospital and its rooms. It was not unusual for local rulers to make personal visits to make sure patients were getting the best care.

Patients were placed on a fixed diet, depending on their condition and disease. The food was high quality and included chicken, beef, lamb, and fresh fruits and vegetables.

Patients who were cured, but too weak to leave, stayed until they were strong enough to return home.

NOW

The Magdi Yacoub Global Heart Foundation at the Aswan Heart Center opened in 2009. It is located along the banks of the Nile in Aswan. The hospital has the latest technologies. They provide training for doctors and nurses and free medical services. They conduct advanced research and share what they learn in a quarterly journal. A new Center is also being built in Cairo.



Today, most hospitals serve fewer than 800 people. Many hospitals partner with universities. Doctors share their knowledge and skills with students in real-life situations.
Hospitals today have an organized medical staff, a professional staff, and other health workers, such as technicians and dietitians. The medical staff is organized into departments, such as surgery or pediatrics (children's doctors). Two other essential careers found in hospitals are sanitation and informational technology support.
In addition, a hospital may have a pharmacy, a laboratory, the newest technology, physical therapy departments, a nursery, delivery rooms, operating rooms, recovery rooms, an outpatient department, and an emergency department.

PATIENT AND DOCTOR

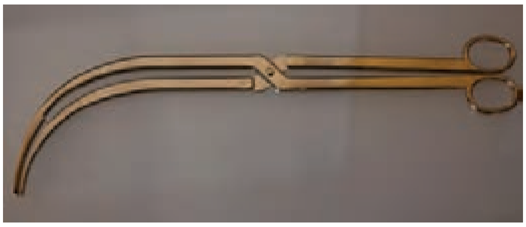
Take notes about the illness or injury your partner describes.



MEDICAL TOOLS

Look at the tools. Circle past or present and write how you think the tool is used.

1. PAST OR PRESENT



I think this is used for ______________________

____

2. PAST OR PRESENT



I think this is used for ______________________

____

3. PAST OR PRESENT



I think this is used for ______________________

____

4. PAST OR PRESENT



I think this is used for ______________________

____

5. PAST OR PRESENT



I think this is used for ______________________

____

6. PAST OR PRESENT



I think this is used for ______________________

____

7. PAST OR PRESENT



I think this is used for ______________________

____

8. PAST OR PRESENT



I think this is used for

____

CONNECTING FORCES



MOTION ON THE FARM

Read the story. Then write the next part of the story. Be sure to include dialogue between Rashad and Zeina.

As soon as he got off the bus, Rashad knew it was going to be a fun day at the farm. The farmer met them at the gate and said they would visit the cotton fields first.

A little black cat rubbed against Zeina's legs, and Rashad told her, "I cannot wait to meet all the other animals on the farm. We have cats at home, but I have never seen anything bigger than a goat up close before." Zeina said she was excited to look inside the grain silos.



The walk to the fields was short, but so much happened on the way. Rashad lost count of the goats he saw in a pen next to a big barn. He was still counting when the farmer said, "Look, children, this is how we sow seeds in our field."

Rashad did not even realize he was in a field. Nothing was growing. How could this be a cotton field? He was about to ask when he saw two giant oxen approaching, pulling something behind them.

"This team of oxen is pulling a spreader. Look closely at the machine they pull. Do you see that lever? It is broadcasting cottonseed."

Rashad watched as seeds flew out in an arch along the rows of dirt. It was like watching a fountain. Sometimes the seeds traveled so far, and other times they fell close to the machine. He wondered why the man driving the oxen kept changing the oxen's speed.

"This is so interesting, Rashad," Zeina said.

"Do you notice that sometimes the seeds go far and sometimes they fall near? What do you think makes that happen?" asked Mr. Mahmoud. Rashad raised his hand.

Think about the motion of the oxen and the seeds. Write the next part of the story below.

PREDICT THE MOTION

Read the scenarios. Predict the motion of the moving objects or person in each scenario. Match each scenario to one predicted movement.

SCENARIO	PREDICTED MOVEMENT
a dancer swaying to the left and trying to regain her balance	will move downward
a toy falling from a baby's hand	will move to the left
a bouncing ball hitting the ground	will move upward
a marble moving in a straight line that is hit by another marble from the right	will stop moving
a rock landing in a pile of sand after falling from a girl's hand	will move to the right

RASHAD'S DISCOVERY

Read the story.

"We do not always use oxen around the farm for work," the farmer said to the class as he led them up a path. "We have big machines to help us, too."

The farmer walked up to a shiny orange tractor. It was bigger than Rashad ever imagined. It could probably hold ten goats. Rashad could not wait to sit in the cab and steer it.



Rashad noticed that the farmer was carrying a schedule to tell him when to complete his chores. Both Rashad and Zeina wondered how he could read the paper while he worked with both hands. Their question was answered when the farmer stepped up into the tractor's cabin. He pulled something out of his pocket and stuck the list right to the wall of the tractor cabin.

The farmer then reached up and pulled a small screen off the roof of the cabin. Somehow, he stuck the shade to the bar above one of the windows.

"You never know when one of these will come in handy, so I always keep a few with me," the farmer said as he produced another magnet from his pocket. It reminded Rashad of when his mom put his best drawings on the ice box. Rashad laughed, remembering how he could not resist taking down the magnets to play with them.

Rashad's favorite game was to test objects to see what the magnets would attract . Look at the items Rashad tested with his magnets. Circle each item that you think would be attracted by a magnet.





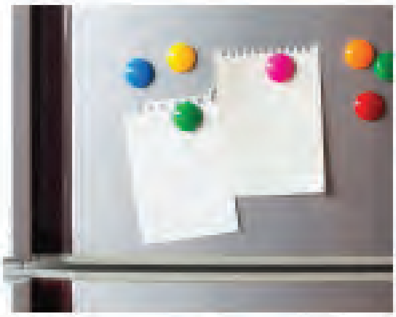


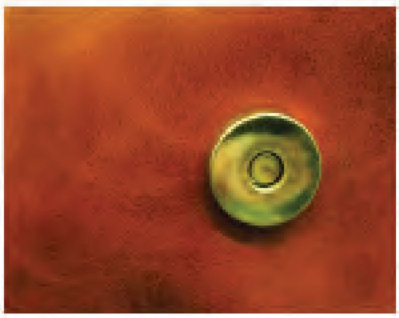

MAGNETISM IN USE

Read the informational text . Then discuss and answer the questions.

We use magnets for practical things every day. We can stick a note to the refrigerator or ice box with a magnet. There are toys that use magnets to make blocks or train cars stick together. Some dartboards use magnets to make the darts stick to the board.

Magnets are sometimes used to keep wallets, cabinets, or boxes closed. Powerful magnets can help separate some metals that can be recycled from other garbage.




How do you see magnets used around you every day?

____

____

What problems do you think a magnet could help solve?

____

____

THE FARMER NEEDS HELP

Read the story. Underline the problem the farmer needs to solve.

"You might think that farms are old fashioned," the farmer said, "but our farm is always trying to get better. We have been researching some options to give our cattle a better life. The oxen work so hard for us in the fields, and our cows provide us with milk. We think they would be happier if they could graze on the big open fields instead of being tied up all the time. It is important we do not lose them, though."

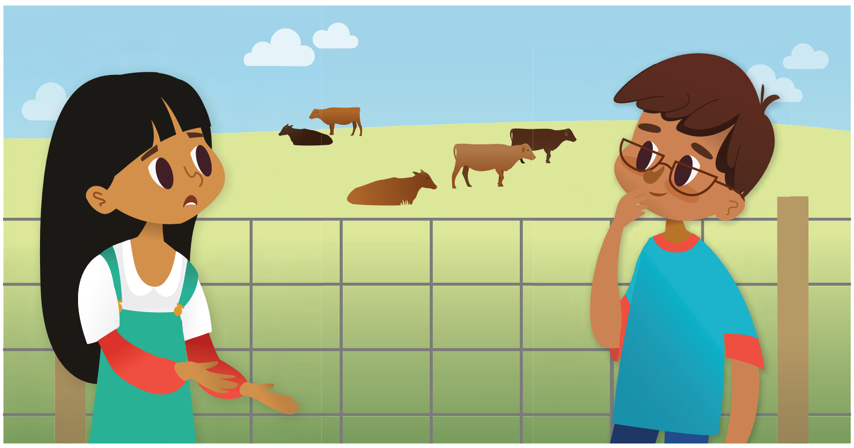
Rashad and Zeina talked about this. Rashad thought about how he used to have trouble sitting still in class. Zeina noted that she usually worked better in class after some time to play in the courtyard. They agreed that if the cattle could be free on the pasture, they would be stronger and able to work harder for the farmer.

"We bought some fences," the farmer explained. "That way the cattle can have this huge pasture to graze freely whenever they want. It will keep them healthier and give them a chance to exercise."

Zeina looked at the giant pasture created by the new fences, and then she looked back at the barn. It was so beautiful, but suddenly she noticed something. "How do you keep them in the barn at night, so they stay safe? They could walk out in the dark and get hurt."

"That is a great question," the farmer replied. "We have been struggling with keeping the gate closed. It opens like a regular door, but cattle are smart. They have started pushing it open to get into the fields all night long."

Rashad's mind worked hard to solve the problem. It seemed like everyone would be happier if those gates would keep the cattle inside during the night.



Write or draw a diagram to three ideas for solving the farmer's problem and share them with your partners.

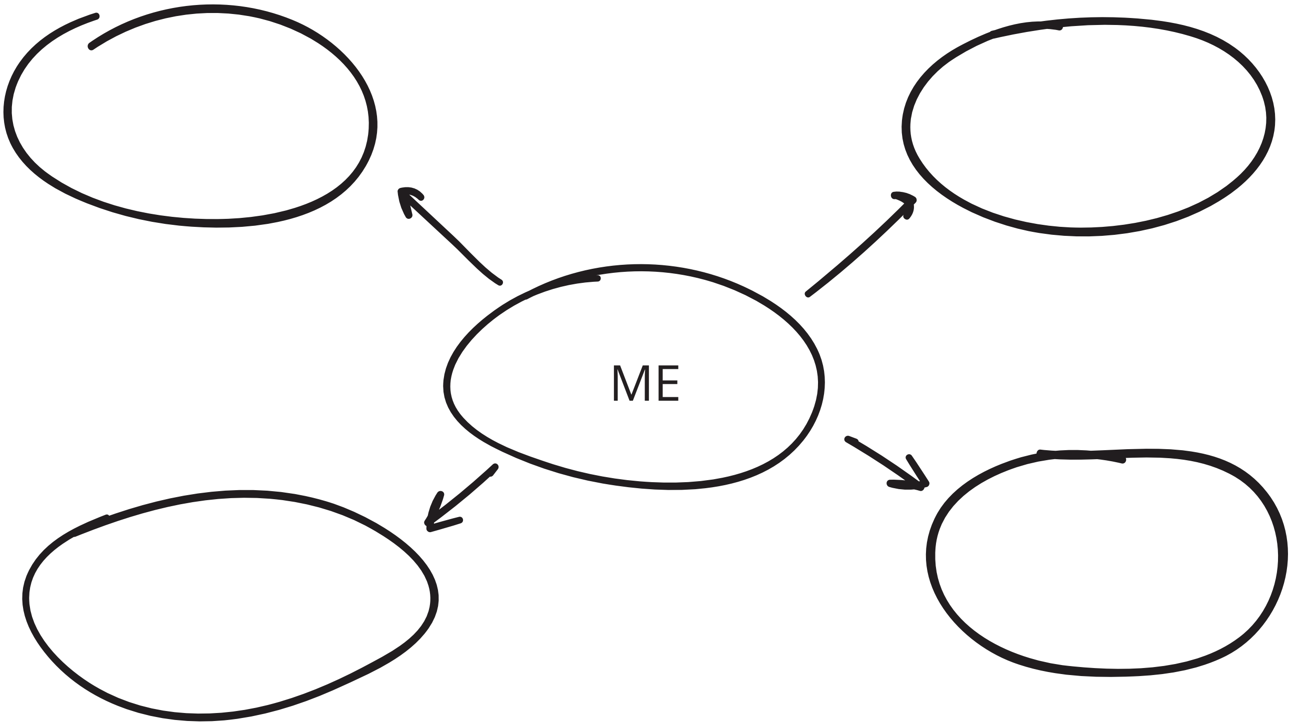
CHAPTER 2

CONNECTING PEOPLE



CONNECTING PEOPLE WEB

In each circle, write the name of someone you connect with in the community. On each line, write how and why you connect with that person.



CONNECTION CHALLENGES

List several people you do not connect with often. Record a reason that makes connecting with them a challenge. Then circle the challenge you are most interested in solving.

PERSON	CONNECTION CHALLENGE

TECHNOLOGY THROUGH TIME

Arrange each set of cards in the order in which the technology was invented.

Set 1








Set 2



Choose one example of the previous technological applications and think what problem it addresses and how it solves that problem.

Look at each car in the second group, then write the advantages and disadvantages of each car's design.

WHY PEOPLE NEED TRANSPORTATION

Read the article on transportation with a partner. Underline reasons why people need transportation as you read.

Have you ever taken a trip? A trip might require taking a bus across town or an airplane halfway around the world. Where did you go? What form of transportation did you use?

Going on a trip is one reason people use transportation. There are many other reasons people may need to use transportation. Young people need to be educated at schools. Adults need to earn money at their jobs. Some schools and jobs are too far away to walk. Everyone may want to visit friends and family and to go on vacation.



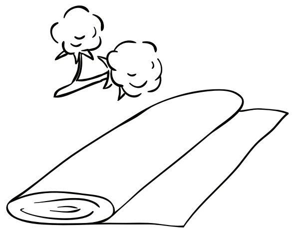


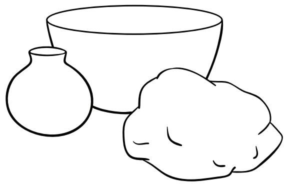
Transportation does more than move people around. Transportation also moves goods. People need a wide variety of goods like food, furniture, and clothing. Transportation makes it easier to get resources found in different areas. Transportation brings goods from where they are made to where they are sold. Transportation also helps connect people so they can trade for the things they need. All communities depend on good transportation.

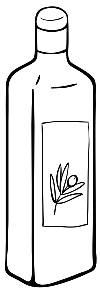
WHAT PEOPLE TRADE

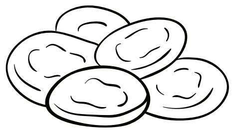
Color the cards. Listen to your teacher for directions.


RICE

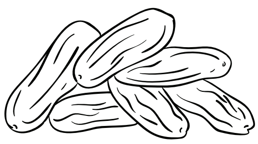

COTTON

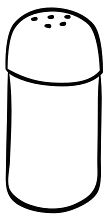

CLAY

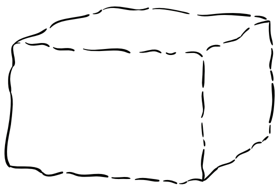

OLIVE OIL

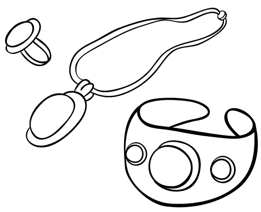

APRICOTS

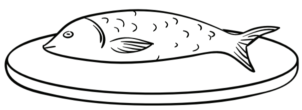

ALMONDS

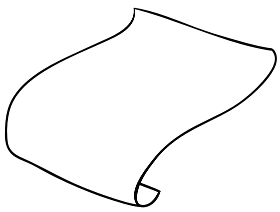

DATES


SALT


STONE

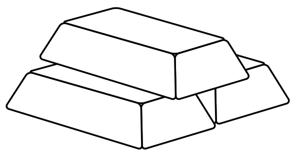

JEWELS


FISH


PAPYRUS

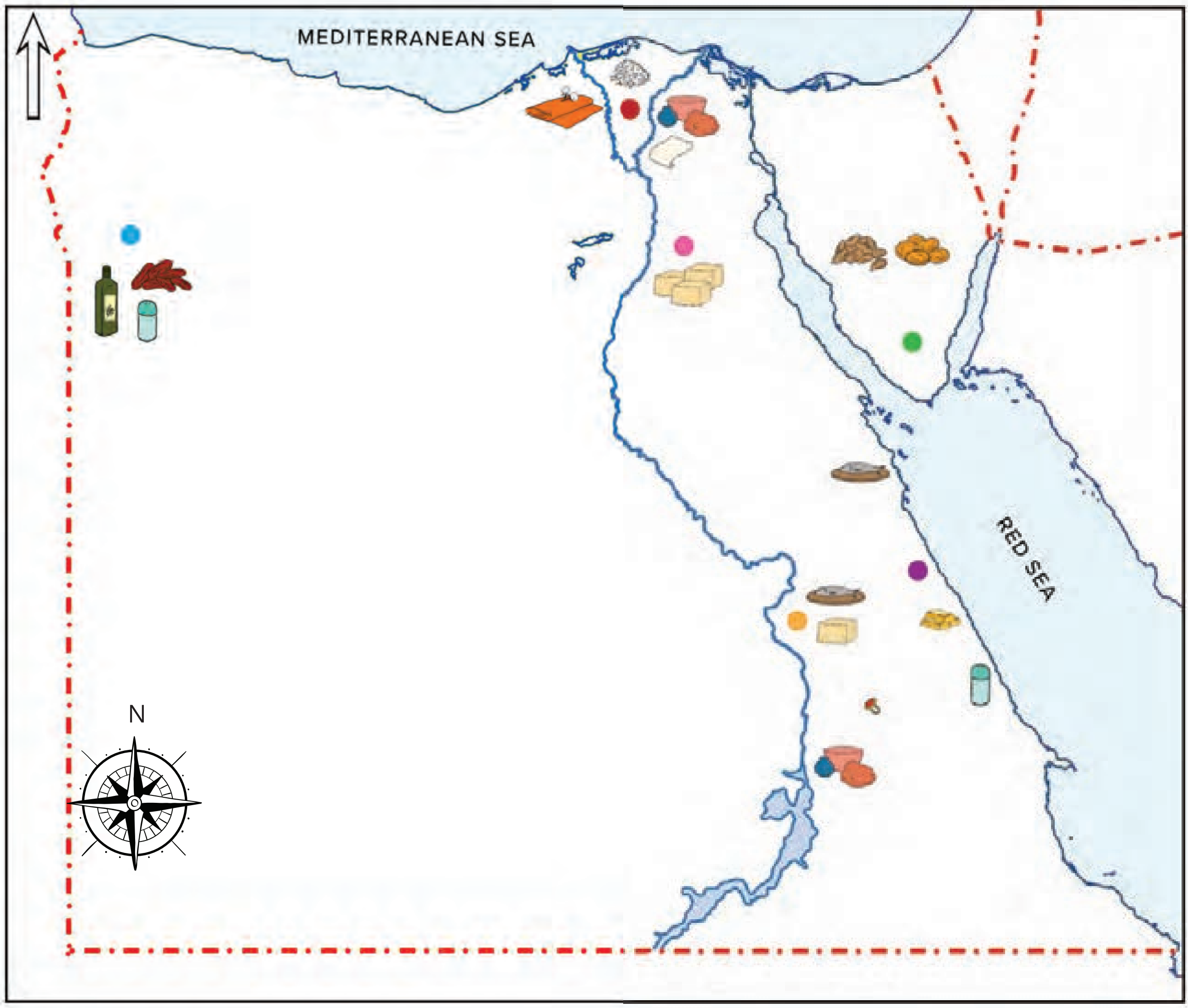

SEAMSTRESS (LABOR)


BRICKLAYER (LABOR)


GOLD

TRADING MAP

Look at the map of Egypt. Listen for your teacher to tell you from which region you will be trading. Circle your region.



MEETING PEOPLE'S NEEDS

Read the passage. Circle the types of transportation you have used to connect with other people.

Each form of transportation provides a unique set of advantages and disadvantages, making it ideal for different circumstances.

Bicycles are very useful for short journeys in good weather.



Automobiles can carry people quickly and efficiently within their communities and regions, while trucks and trains can carry heavy cargo.





Ships are ideal for carrying cargo over the ocean.



Airplanes are useful for traveling very long distances or over oceans quickly.

People work together and use many types of transportation to support a community.

DESIGNING TRANSPORTATION SYSTEMS

Read the article. Underline the factors engineers must consider when they design transportation systems.

Engineers are trained to solve design challenges. One important design challenge is improving transportation systems. Engineers must design a solution that meets the needs of the community. The solution also needs to respect the environment. Engineers use a process when they do their work, which starts with identifying a need and writing a goal.

When designing a transportation system, engineers must think about several factors. One factor is location. Where is the transportation system going to go? What are the advantages and disadvantages of that location? How far do the people using the system need to go? Will the system be used on land, in the water, or in the air?



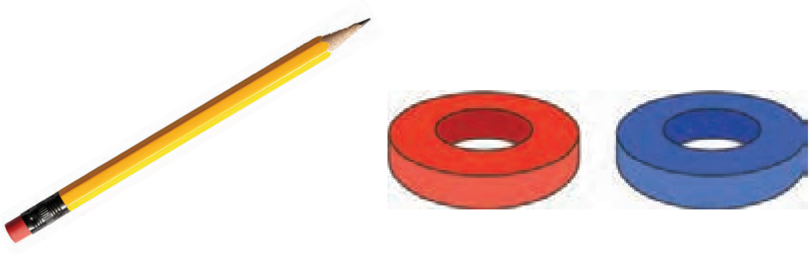


Another factor an engineer must consider is who will use the system. Will the system need to transport people, cargo, or both? How many people will use the system, and how often? If a bridge is needed, the amount of traffic across the bridge is important to know. How wide or strong must the bridge be to fit everyone? What features might be needed to control the direction and speed of traffic?

FLOATING MAGNETS

Read the instructions. Follow the steps to complete the activity. Record your observations with a drawing and words.

MATERIALS
• Pencil • Two circular magnets



Instructions:

1. Hold the pencil upright on your desk. Slide one magnet down the length of the pencil so it rests on the desk.

2. Slide a second magnet onto the pencil so that it does not touch the first magnet. Remember what you learned about the poles of a magnet to help you.

My Observations:

My Drawing	When I placed the second magnet on the pencil...

TRANSPORTATION INNOVATIONS

Read the article with your teacher. First, find the innovations that use magnets in the design. Then, read the article again and circle the advantages and underline the disadvantages of each innovation.

Long ago, people relied on animals to cross large distances on land. The horse and carriage allowed people to travel far with goods. Travel by carriage was very slow. Trains were invented to help people travel long distances more quickly. Trains were also inexpensive. Many people could afford to use them. Trains are still used today, but people want to travel across land even faster. Engineers are now designing new ways to travel across land.

Maglev Train

Magnetic levitation (maglev) trains work by using powerful magnets. The magnetic force makes the train "float" above tracks. A maglev train ride is smooth and quiet. It can also move very fast—more than 480 kilometers per hour. The main disadvantage of the maglev train is that it is expensive to build and operate.



Hyperloop



The hyperloop system will send people and goods through large tubes very fast. The speed is estimated at almost 1,200 kilometers per hour. A trip that takes six hours now could happen in just 30 minutes. The way it works is similar to the maglev train. Magnets on the track and in the sled's engine push the pods along the track. The hyperloop does not need much energy to run, and it does not make pollution. Not everyone is convinced the hyperloop is a good idea. Some say it is too expensive and the engineering challenges are too difficult.

BUILDING A NEW CAPITAL

Read the article. Answer the question.



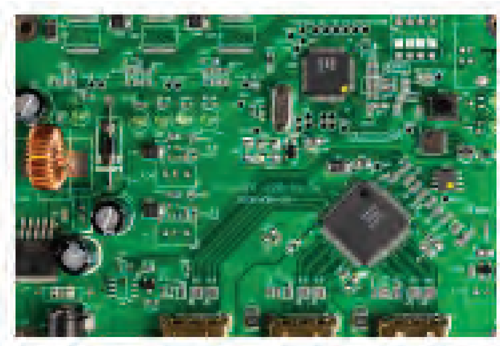
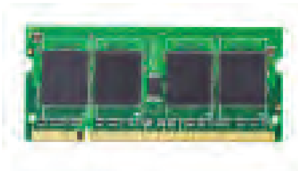
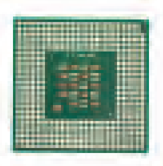
Egypt is designing a new capital city. This capital will be a "smart" city. It will use technology to provide services. Sensors will report smoke or fires directly to emergency services. The smart technology will also monitor accidents and the amount of traffic. The airport will have high-tech security systems and baggage scanners. The new capital will be the first city in the country to not use cash. People will use credit cards or phones to pay for goods and services.

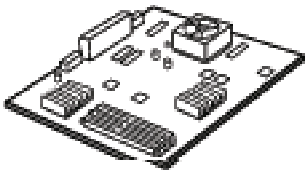
Use your imagination. What is one new technology or innovation you would like to see in the new capital?

THE PARTS OF A COMPUTER

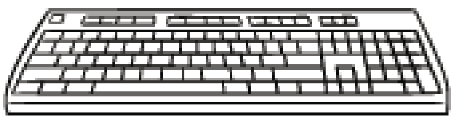
Look at the pictures on the page. What do you know about each of these parts of a computer?

A computer system is a set of hardware (equipment) and software (programs) that work together to complete a task or function. They input, output, process, and store data and information. The basic parts of a computer are:

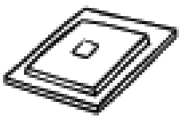




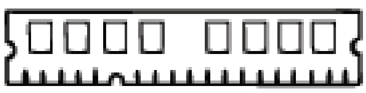
- The **motherboard** is where all the parts of a computer connect and communicate.



- The **input** device is used to put data into the computer. The example shown here is a keyboard.



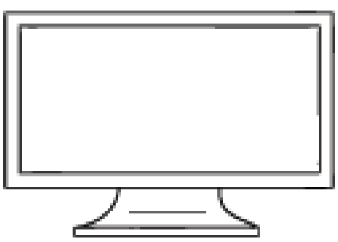
- The **central processing unit (CPU)** is the brain of the computer. It follows commands and manages information. The CPU sends data to the output devices.



- The **memory** stores data short term so the CPU can use it.



- The **storage** device stores data, like computer programs, long term.



- The **output** device allows the user to see the result. The example shown here is a monitor.

MY TURN

Read the story to yourself. Then read the story again with your partner. Use expression as you read.

Mother is waiting at the door. She has keys in her hand. Her foot is tapping and she is not very happy.

"Rashad, please stop talking on your cell phone. We have 15 minutes to get to school. We will be late again. And Yasmeen, your report should have been finished yesterday. You have been on the computer since you got home yesterday. You are not the only one in the house who needs the computer. Please come now." Mother shook her head and walked to the car.

Yasmeen turns to her brother, Rashad. "You are always on your cell phone, Rashad. You should be more considerate of Mother."

Rashad throws his jacket at Yasmeen. "I would not be on my cell phone if you were not on the computer all the time. You never let anyone else use the computer," he says.

STAYING CONNECTED

We communicate in many ways. Sometimes we talk or text with others and sometimes we learn or play games. Work with your Shoulder Partner to list ways you use technology to communicate. Then think about other ways we might communicate.

TECHNOLOGY	ADVANTAGES	DISADVANTAGES	WAYS TO CONTROL USE
Video games	They are fun to play I can learn from some	I spend too much time I do not play with friends	Only play for a certain amount of time Play at a certain time of the day

THE YEAR 2040

Use your imagination. Think about how technology might change in the future. Draw a picture of how you stay connected with your family in the year 2040. Be sure to add details.

CHAPTER 3

CONNECTING WITH COMMUNITY



RASHAD'S CLASS NEWSPAPER

Read the story. Decide with the class the most important parts of the article.

Rashad's class is composing a newspaper. The students name the newspaper The Report. The class decides that the audience for the newspaper will be their families. Mr. Mohamed, their teacher, tells the class to write about a person in the community.

Rashad and his friends are worried. They want to be reporters, but they do not understand how to conduct an interview for their newspaper. Mr. Mohamed tells them not to worry. He will share his interview with them to help.

THE REPORT

HELPING MY NEIGHBORS

by Mr. Mohamed

Maria Mohamed is important in our community. She sells fruit at Corner Market. Mrs. Mohamed smiled when she was asked why she likes her job. She said people rely on her to find the best fruit for their families. She even saves special fruit for some of her customers.

Mrs. Mohamed hopes you will visit her during the day at Corner Market. She will save the best pears for your visit.

Rashad and his friends are glad Mr. Mohamed shares his interview with the class. It will be fun to interview a friend.

KEY

______	______	______
______	______	______
______	______	______

MY QUESTIONS AND ANSWERS

What do you want to know? What questions will help you find the answers? Record your questions in one column and your answers in the other.

Interview notes with ______________________________

QUESTIONS	ANSWERS

COMMUNITY MEMBER INTERVIEW

What do you want to know? What questions will help you find the answers? Write your answers across from the questions.

Interview notes with ______________________________

QUESTIONS	ANSWERS

PUBLIC SERVICE MESSAGE

Look at the public service messages below. Why are these messages important?









PLANNING A MESSAGE

Read the goals of a good public service message. Create your own advertisement.

Goals of your advertisement:

- The message is clear and easy to understand.
- The message is supported by facts.
- The audience is able to sympathize with those affected by the issue.